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SMITHSONIAN INSTITUTION

FIVE-YEAR PROSPECTUS
FY 1989 - FY 1993



SEPTEMBER 28, 1987

SMITHSONIAN INSTITUTION
FIVE-YEAR PROSPECTUS
FISCAL YEARS 1989 THROUGH 1993

(D R A F T)

SEPTEMBER 28, 1987

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INTRODUCTION

Over the past year, the Institution has restructured its planning and budget process in a significant way. Major changes to the planning process have been: the inclusion in the fall and winter of discussions between the bureau or office directors and Smithsonian Management Committee members concerning priorities and operating objectives of the units relative to the Institution's for the five year period ahead; the development of more comprehensive statements of the purpose and goals for the Institution describing basic operations and continuing long-term aspirations; and a statement focusing on particular activities that will be emphasized over the next several years (referred to as the "Areas of Emphasis") in pursuing the goals of the Institution.

The early discussions on plans and priorities helped to identify areas of common interest, opportunities for future collaborative efforts among bureaus, along with research, administrative, and other support requirements necessary for potential future year programs and operations. The discussions were followed by communications from Management Committee members to the individual bureaus and offices indicating which proposed plans and priorities were endorsed in concept, and where modifications were in order. This basic approach will continue in future years as part of the planning and budget cycle.

The development of an amplified purpose and set of goals was undertaken to help describe to the public the basic management principles of the Institution, and aspirations for program quality and directional growth in future years. The statement outlining areas to be emphasized over the next few years represents the Secretary's formal guidance for budget and resource planning; this statement was distributed to the bureaus and offices in the spring of 1987. Throughout the course of the Institution's internal budget deliberations, these statements served as a general framework for prioritizing, isolating and selecting the various projects and proposals submitted by bureaus and offices for funding during the forthcoming budget year.

These new procedures are aimed at integrating and strengthening internal planning and budgeting processes and ultimately increasing the efficiency and effectiveness of management decisions. In large measure, the new processes are based upon those followed by many public institutions of higher education, whose education, research and public service programs, governance and organization structure, and sources of funding are similar to those of the Smithsonian. The purpose, goals, and areas of emphasis statements follow.

Statement of Purpose

The Smithsonian Institution was created by Act of Congress in 1846 to carry out the terms of the will of James Smithson of England, who bequeathed his entire estate in 1826 to the United States of America "to

found at Washington, under the name of Smithsonian Institution, an establishment for the increase and diffusion of knowledge among men."

Joseph Henry, the first Secretary, in his efforts to give purpose and direction to activities of the fledgling Institution, commented on Smithson's will in his annual report for 1864:

"He evidently did not intend by these precise terms to found a library or a mere museum for the diffusion of popular information to a limited community, but a cosmopolitan establishment, to **Increase** the **Sum** of human knowledge and to diffuse this to every part of the civilized world. No other interpretation of the will is either in accordance with the terms employed or with the character and habits of the founder. The **Increase** of human knowledge, by which we must understand additions to its sum, would be of little value without its diffusion, and to limit the latter to one city or even to one country, would be an invidious restriction of the term **Men**."

Over the course of its one hundred and forty-one year history, and under the direction of succeeding Secretaries, the Institution has evolved into an eminent research center and the world's largest museum complex. Its activities span the globe and are devoted to research, museology, and public education in the arts, sciences, and history in the service of all mankind.

The Smithsonian is a unique establishment which is both publicly supported and privately endowed, and whose governance is vested in an independent Board of Regents composed of federal officials, members of Congress, and private citizens. Donations from both the public and private sector increase its collections and continuing additions to its trust funds expand and nourish the Institution's usefulness. Appropriations by Congress provide steadily increasing federal support for the Smithsonian's far-reaching services to the public. Annually hundreds of thousands of service hours are provided to the Institution by dedicated volunteers.

The research, management, care, exhibition, and security of its collections, the maintenance of its buildings, facilities, and natural areas and a program of selective acquisition for the collections are basic institutional commitments. The Institution's holdings are a trust responsibility and serve as important assets for future generations.

In addition to collections and non-collections related original research, museum curation, and collections management, the Smithsonian conducts a wide range of other programs in carrying out its broad goal of increasing and diffusing knowledge. It participates in joint ventures with other organizations in the United States and on every continent to study and understand subjects of world importance. Fundamental data are assembled for use by planners and research workers in other organizations, both government and private, national and international in scope. His-

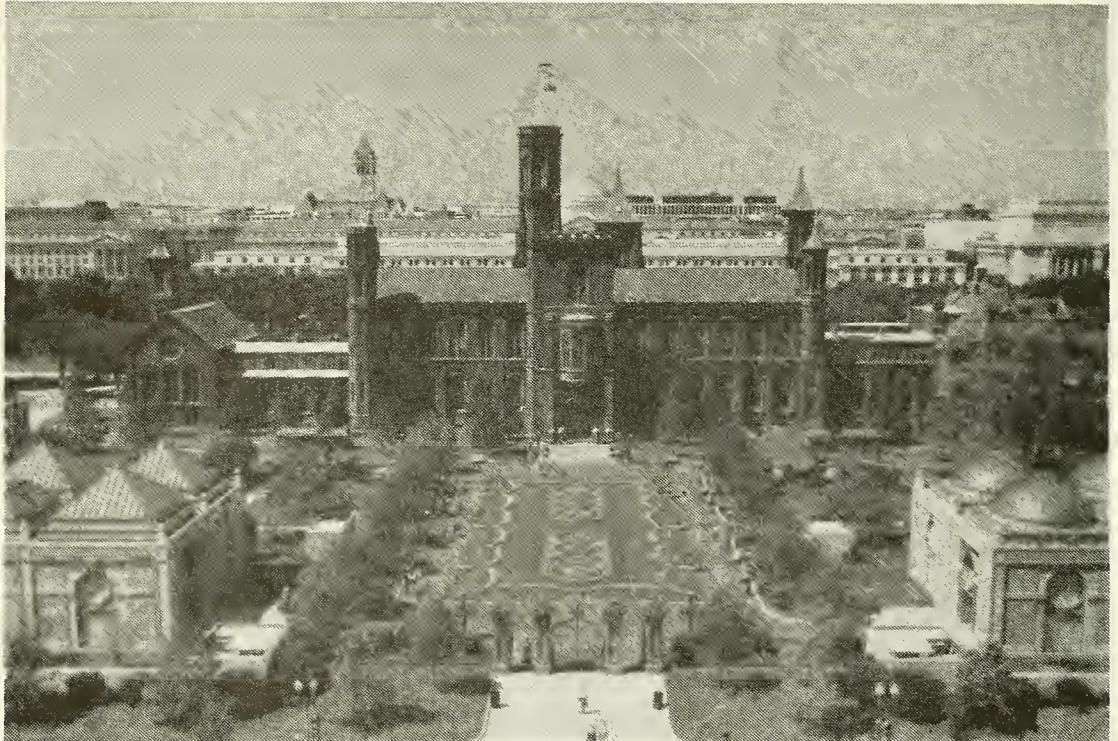
torical and art studies, which enhance knowledge of man's cultural and technological growth, are also major endeavors. The results of the Institution's varied activities are disseminated to a wide audience through exhibitions, publications and other public media programs.

Most important to fulfilling the basic purpose of its founding benefactor, the Institution places the highest priority on achieving quality in the conduct of its activities while making the most effective use of available resources.

Goals of the Institution

The Institution seeks to achieve its basic mission to increase and diffuse knowledge in the following ways:

- . By providing the highest quality of research, curatorial, and professional leadership and expertise through emphasis on excellence in staff appointments and promotions, and through maintaining and improving technical assistance, fellowship programs, equipment, and facilities which support collections related and other original research.
- . By promoting joint research, museum and education programs with other domestic and foreign academic and museum enterprises through a sharing of knowledge, expertise, exhibitions, collections, facilities and other resources.
- . By providing stimulating educational and museum experiences for all visitors, and by promoting outreach activities at many levels, especially those that will increase participation by minorities, handicapped persons, senior citizens, and other specialized groups.
- . For the sake of future generations of scholars and visitors, by devoting careful attention to the acquisition, care and preservation of collections and institutional facilities that house them, especially as related to protection, inventory, storage, building maintenance, equipping activities, and renovation of exhibit and other public areas.
- . By producing exhibitions using the Institution's and other collections and contemporary techniques to communicate to the Institution's audiences information about historical and cultural development, recent discoveries, new technologies, and new results of scholarship in science, history, and art.
- . By producing magazines, books, periodicals, catalogues, journals, television and radio programs, and other educational products of high quality for the research and museum communities, and the general public.
- . By providing a more complete understanding of programs and activities to the general public, foreign and domestic research and museum communities, and governmental organizations through the media and



The Enid A. Haupt Garden, on the south side of the Castle, opened to the public in the spring of 1987. The Haupt Garden is an exhibition garden meant to offer visitors a peaceful repose from the hustle and bustle of the Mall. Shown in the foreground are the entrance pavilions to the Sackler Gallery and the Museum of African Art which opened to the public in the fall of 1987.

through the encouragement of technical advances in communication and education.

- . By maintaining management, administrative, and support services to meet program needs, by providing internal financial systems and controls, and by periodic assessments and orderly planning for new and renovated facilities for purposes of accomplishing research, collections, and public related programs.

Areas of Emphasis

Management Objectives. Improve communications between central and bureau management; develop cooperative operations among bureaus with common interests; and critically evaluate all ongoing programs and support activities for purposes of discontinuing those that have outlined their usefulness, improving the quality of program products and delivery of services, and redirecting resources to more important efforts.

Research and Research Support; collection and non-collection based.

- . Strengthen emphasis on excellence in staff promotions and appointments; progress with equal employment and affirmative action objectives.
- . Strengthen joint programs and ties with other academic and museum enterprises, domestic and foreign, in areas of common interest.
- . Increase bureau flexibility and responsibility for development of and response to new museum and research initiatives in art, history and science areas.
- . Provide for orderly forward planning and commitments for research instrumentation and facility development (STRI plan, SAO Whipple base camp, MMT conversion, submillimeter telescope, Zoological Research facility at Rock Creek).
- . Strengthen and balance biological and biodiversity research and associated technical support (especially among such areas as taxonomy, systematics, molecular biology, specie propagation and other environmental studies).
- . Enhance Fellowship and Internship Programs.

Public Services. Strengthen visitor experiences and services based on researched demographics and needs; widen educational and museum outreach, specifically through exhibitions, program and membership initiatives directed toward minority audiences and development of new teaching materials and aids.

Facilities.

- . Pursue correcting the backlog of deferred building maintenance, strengthening preventive maintenance programs, accelerating

renovation of exhibition space, and continuing with initial equipping and outfitting of the Museum Support Center.

- . Examine and pursue orderly scheduling and development of major renovations and new construction projects; develop an in-house facilities planning capability.

Collections Management. Continue to strengthen collections management and to identify associated requirements (storage, inventory, systems, conservation).

Administration. For the successful realization of institutional program goals, pursue correction of operating and funding deficiencies in protection and plant services, safety and environmental programs and accounting, personnel and procurement activities.

International and Associated Programs. Promote increased public awareness and understanding of other cultures; foster international scientific cooperation and exchange; continue with present scope and projected rate of growth of the Columbus Quincentenary program, but incorporating new and worthwhile projects, if necessary, and if they provide long-term and lasting foundations in strengthening international relations, particularly with Latin America.

General Development. Continue to examine and consider various realistic ways to increase basic trust resources of the Institution, including product development, a general capital campaign, cultivation of donors, international markets, and alternative investments.

ORGANIZATION AND GENERAL SUMMARY OF THE PROSPECTUS FY 1989-FY 1993

The Prospectus is arranged by the major organizational grouping of the Institution and corresponds to the assembly of the FY 1989 budget submission to the Office of Management and Budget; i.e., Research, Museums, Public Service, and International Activities, with separate sections treating Special Programs, Associate Programs, Business Management Activities, and Administrative and Facilities plans. Detailed operating projections and brief descriptions for the bureaus and offices appear in Appendix I. Several items discussed in the text, along with the financial figures for FY 1989, complement the Institution's budget submission to the Office of Management and Budget, and also appear in that document.

The Prospectus should be read in conjunction with another publication, Yesterday and Today, which is updated every year and provides background information on the programs of the Institution. The Prospectus emphasizes selected aspects of the Institution's work while assuring that others will continue at approximately the present level of activity. Special attention in future years includes gaining added resources for research and research support, particularly with regard to renewed efforts

in tropical biology and forest ecology, systematics, equipment and important instrumentation development. Requirements for security of collections and other property, automation of records and systems, and the maintenance of current facilities are also highlighted. Activities in celebration of the Columbus Quincentenary are incorporated. The Museum Support Center at Suitland continues to need appropriate operating and equipment purchase resources for the activities to be housed there. The Institution will be supporting and developing programs directed at improving the quality of science education in the nation's elementary and secondary schools through conferences, workshops, and development of various materials for better teaching.

Facilities development plans beyond the recent successful establishment of the Quadrangle building include, among other projects, additional work at the Zoological Park at Rock Creek and continued development of the conservation and research center at Front Royal, progress with regard to selected science facilities, design and planning for the renovation of the General Post Office Building, storage and exhibit facilities for the Air and Space Museum, and a new Administrative Service Center. Construction, facilities restoration and renovation work, and replacement of major building systems, are described in the Facilities Planning chapter, but detailed phasing and cost projections are not presented. In addition, while some deliberations are underway internally and with other affected organizations and constituencies, it is too early to judge the future with regard to the Institution's potential relationships with the American Indian Museum in New York City, or with the U.S. Postal Service in connection with operating a proposed Postal Museum in the City Post Office Building, if renovated; detailed plans and projections are not included.

For the most part, the effects of inflation cannot be incorporated realistically into the Institution's resource forecasts for bureau and program operations. Summary Table 1, however, attempts to show the general levels of federal resources that would materialize assuming legislated pay changes are forthcoming in the range of three percent per year, federal nonpersonnel resources are appropriated based on price changes for future years as derived from indices supplied by the Office of Management and Budget, and annual federal program growth in the range of 3% to 4% occurs. Similar patterns are incorporated for trust projections. Resources from all sources required for various operations would increase from FY 1987 levels of approximately \$396 million to about \$581 million by FY 1993.

Exclusive of legislated pay increases, federal operating costs are projected to increase approximately \$83 million. Significant additions are forecast for such items as basic and interpretive research utilizing the collections and scientific and cultural information, improvements to automated collections and management systems, improvements to technical and program support, physical plant operations, maintenance and repair, safety programs, security, and scientific instrumentation and equipment replacement.

Through its trust operations, the Institution will continue to concentrate on ways to develop quality educational products for the visiting public and Associate programs, sustain growth in endowment

reserves and supplement important programs such as collections acquisitions, special exhibitions, fellowships, selected research investigations, conferences, and symposia of timely importance. Trust funds, gifts, fund raising programs, and other arrangements are projected to help defray costs associated with selected plant or facility projects such as public restaurants, museum shops, and research and exhibition areas.

Although present trust revenues are encouraging, the Institution's management feels only guardedly optimistic about any five-year projection of such income. Reductions to federal resources, if severe enough, could also affect trust income levels, and the level of public accessibility to the Institution's products or services such as those performed by the National and Resident Associates. Operations supported with nonappropriated trust funds and government grants and contracts are expected to increase by approximately \$69.0 million. These increases involve primarily the revenue producing activities, including the Magazine, the Smithsonian Press, Museum Shops and Mail Order Division, and the National Associates program. The trust fund forecasts assume the Institution will make measured progress in increasing its capital reserves (endowments), thus approximately \$3.0 million a year are incorporated into the projections for this purpose. Detailed forecasting of government grant and contract activities is difficult to achieve, but the Institution expects continued support for various operations in future years. Finally, operations funded by restricted trust fund resources are expected to remain approximately stable, largely reflecting a conservative outlook for gift and grant support in future years. This forecast may change over the planning period.

Notes on Financial Projections

The tables and charts throughout the Prospectus are designed to show trends in the Institution's future year resources patterns, and to reflect the changes and growth contained in the narrative portions of this report. The FY 1987 figures are end-of-year estimates for expenditures and income. FY 1988 figures are those pending approval by Congress, incorporating the Board of Regents' authorization to expend the FY 1988 appropriation, and the Board of Regents' approval of the nonappropriated trust fund portion of the FY 1988 budget.

The FY 1989 federal and trust figures reflect the consolidated budget estimates assembled for approval by the Board of Regent's at its September 28, 1987 meeting. The estimates have been submitted to the Office of Management and Budget. The FY 1989 figures resulted from the Institution's new planning and budget review process described earlier. Projections for years FY 1990-FY 1993 were derived from basic materials prepared by the organizations and bureaus of the Institution and then reviewed by the appropriate members of the Secretary's Management Committee. The large federal increase reflected between years FY 1989 and FY 1990 (\$37.5 million) contains follow on costs of items selected for presentation in the FY 1989 budget request to OMB and projects still under internal consideration for future year funding (\$25.7 million); and cumulative effects of legislated and necessary pay increases, the new

federal retirement system, inflation, and other adjustments (\$11.8 million).

Tables 1 and 2 (pages 10 to 15). Table 1 contains general levels of dollar resources (or revenues) from various sources which the Institution projects will be necessary for the conduct of its operations. In a summary fashion, it incorporates estimates for inflation and pay increases associated with federal and trust operations of the Institution. Table 2 projects expenses by areas of operation (Research, Museums, Public Service, etc.) along with the application of trust funds to such items as plant improvements, endowments, and special activities such as the Collection Acquisition, Scholarly Studies, and Education Programs.

Charts appear throughout the various chapters providing additional information on the projected growth and distribution of funds. Charts 1 through 4, appearing at the end of this introductory chapter, pertain to the application of funds (total and federal) by the organizational structure of the Institution; i.e., as they are organized in the Institution's budget request and the chapters of the Prospectus. Charts 5 and 6 display federal operating projections by program use, e.g., federal funds for research amount to a great deal more than those contained within the framework of the Research chapter when museum based collections research/curation activities are included, along with research performed by such units as the Conservation Analytical Laboratory and the Division of Performing Arts. Research, with its support, constitutes a large portion of the institution's operations, and is expected to continue to grow.

Appendix I Tables (pages 99 to 136). These contain expense projections for the Institution's museums, galleries, laboratories and other programs. For ease of presentation, expenses associated with the various administrative, financial, and support organizations of the Institution are grouped into three categories in the Administrative, Financial and Other Support Services Chapter and in Appendix I: (1) Central Management Offices, (2) Specialized Administrative and Technical Offices, and (3) Facilities Offices.

Appendix II (pages 137 to 148) contains brief descriptions of the kinds of collections related research being conducted by the museums, galleries, and other organizations of the Institution.

TABLE 1
SMITHSONIAN INSTITUTION
SOURCE OF OPERATING FUNDS
FY 1987 BUDGET AND PROJECTED THROUGH FY 1993

(\$000)

SOURCE OF OPERATING FUNDS	FY 1987	FY 1988	FY 1989	FY 1990	FY 1991	FY 1992	FY 1993
Federal Salaries and Expenses	188,974	204,862	219,667	251,889	264,098	269,858	272,374
.Plus cumulative effect of legislated pay changes	--	3,900	8,200	13,500	18,600	23,900	29,500
Subtotal	188,974	208,762	227,867	265,389	282,698	293,758	301,874
Nonappropriated Trust Funds							
Unrestricted General							
.Investments	5,000	5,250	5,200	5,300	5,400	5,500	5,600
.Gifts	50	50	50	50	50	50	50
.Auxiliary Activities	154,417	167,451	179,749	191,316	204,144	215,904	227,929
.Miscellaneous	110	50	50	50	50	50	50
Subtotal	159,577	172,801	185,049	196,716	209,644	221,504	233,629
Unrestricted Special Purpose							
.Investments	800	800	800	800	800	800	800
.Gifts	200	200	200	200	200	200	200
.Bureau Activities	8,113	8,357	8,989	9,164	9,312	9,305	9,468
.Miscellaneous	4,544	1,549	1,525	1,520	1,660	1,654	1,588
Subtotal	13,657	10,906	11,514	11,684	11,972	11,959	12,056
Restricted							
.Investments	4,777	5,120	4,994	5,500	5,500	5,500	5,500
.Gifts, Grants and Contracts	9,003	12,932	10,442	11,390	11,495	11,890	9,309
.Miscellaneous	1,500	1,200	1,200	1,000	1,000	1,000	1,000
Subtotal	15,280	19,252	16,636	17,890	17,995	18,390	15,809
Government Grants and Contracts	18,276	17,635	23,481	21,873	22,077	19,704	17,329
Gross Income	395,764	429,356	464,547	513,552	544,386	565,315	580,697
Less Expenses of Auxiliary and Bureau Activities	(135,714)	(148,031)	(162,160)	(172,672)	(182,613)	(192,559)	(203,365)
Net Funds Provided	260,050	281,325	302,387	340,880	361,773	372,756	377,332

TABLE 2
SMITHSONIAN INSTITUTION
APPLICATION OF OPERATING FUNDS
FY 1987 BUDGET AND PROJECTED THROUGH FY 1993

(\$000)

(Page 1)

APPLICATION OF OPERATING FUNDS	FY 1987	FY 1988	FY 1989	FY 1990	FY 1991	FY 1992	FY 1993
Research							
.Federal Salaries and Expenses	34,861	37,361	39,176	45,494	51,169	49,796	47,527
.Unrestricted General							
-Program and Administrative*	1,228	1,294	1,218	1,403	1,484	1,454	1,311
-Auxiliary Activities	--	--	--	--	--	--	--
.Unrestricted Special Purpose							
-Bureau Activities	969	1,032	1,068	1,052	1,035	1,082	1,127
-All Other	1,516	1,715	1,485	1,577	1,633	1,599	1,582
.Restricted	1,750	1,779	1,741	1,489	1,817	1,983	2,142
.Government Grants and Contracts	15,808	14,782	20,729	20,189	20,269	16,819	13,576
Subtotal	56,132	57,963	65,417	71,204	77,407	72,733	67,265
Museums							
.Federal Salaries and Expenses	72,343	75,572	79,354	89,864	90,410	90,359	90,132
.Unrestricted General							
-Program and Administrative	2,352	2,524	2,451	2,519	2,594	2,657	2,748
-Auxiliary Activities	--	--	--	--	--	--	--
.Unrestricted Special Purpose							
-Bureau Activities	4,412	4,738	5,037	5,059	5,042	5,094	5,262
-All Other	6,770	3,615	3,436	3,475	3,520	3,636	3,681
.Restricted	11,417	15,503	11,836	10,770	10,274	10,949	10,112
.Government Grants and Contracts	1,792	1,354	1,023	942	960	977	997
Subtotal	99,086	103,306	103,137	112,629	112,800	113,672	112,932
Public Service							
.Federal Salaries and Expenses	2,458	2,502	2,502	2,777	2,527	2,527	2,527
.Unrestricted General							
-Program and Administrative	2,388	2,540	2,713	2,796	2,910	2,987	3,071
-Auxiliary Activities	12,185	13,195	15,055	16,825	17,675	18,860	19,055
.Unrestricted Special Purpose							
-Bureau Activities	69	65	73	76	94	108	128
-All Other	282	12	10	111	110	112	111
.Restricted	(16)	--	--	--	--	--	--
.Government Grants and Contracts	--	--	--	--	--	--	--
Subtotal	17,366	18,314	20,353	22,585	23,316	24,594	24,892

* Net of SAO Overhead Recovery

TABLE 2 (Continued)
SMITHSONIAN INSTITUTION
APPLICATION OF OPERATING FUNDS
FY 1987 BUDGET AND PROJECTED THROUGH FY 1993

(\$000)

(Page 2)

APPLICATION OF OPERATING FUNDS	FY 1987	FY 1988	FY 1989	FY 1990	FY 1991	FY 1992	FY 1993
Directorate, International Activities							
.Federal Salaries and Expenses	634	884	884	1,884	1,884	1,884	1,134
.Unrestricted General							
-Program and Administrative	805	654	649	649	664	687	707
-Auxiliary Activities	--	--	--	--	--	--	--
.Unrestricted Special Purpose							
-Bureau Activities	--	--	--	--	--	--	--
-All Other	150	150	150	150	150	150	150
.Restricted	44	160	161	103	103	103	103
.Government Grants and Contracts	--	--	--	--	--	--	--
Subtotal	1,633	1,848	1,844	2,786	2,801	2,824	2,094
Special Programs							
.Federal Salaries and Expenses	6,774	7,002	7,457	11,925	10,398	10,570	9,627
.Unrestricted General							
-Program and Administrative	1,355	1,562	1,535	1,700	1,745	1,891	1,836
-Auxiliary Activities	--	--	--	--	--	--	--
.Unrestricted Special Purpose							
-Bureau Activities	49	63	51	52	53	54	56
-All Other	9,285	10,989	11,046	12,333	12,820	13,289	13,735
.Restricted	363	586	594	2,626	1,884	2,118	623
.Government Grants and Contracts	676	1,499	1,729	742	848	1,908	2,756
Subtotal	18,502	21,701	22,412	29,378	27,748	29,830	28,633
Associates Programs							
.Federal Salaries and Expenses	--	--	--	--	--	--	--
.Unrestricted General							
-Program and Administrative	996	996	1,021	1,321	1,403	1,493	1,575
-Auxiliary Activities	78,699	86,584	93,357	98,249	104,026	109,342	116,185
.Unrestricted Special Purpose							
-Bureau Activities	11	13	15	17	18	19	22
-All Other	264	37	15	18	19	20	20
.Restricted	21	47	20	21	20	21	20
.Government Grants and Contracts							
Subtotal	79,991	87,677	94,428	99,626	105,486	110,895	117,822

TABLE 2 (Continued)
SMITHSONIAN INSTITUTION
APPLICATION OF OPERATING FUNDS
FY 1987 BUDGET AND PROJECTED THROUGH FY 1993

(\$000)

(Page 3)

APPLICATION OF OPERATING FUNDS	FY 1987	FY 1988	FY 1989	FY 1990	FY 1991	FY 1992	FY 1993
Business Management							
.Federal Salaries and Expenses	--	--	--	--	--	--	--
.Unrestricted General							
-Program and Administrative	--	--	--	--	--	--	--
-Auxiliary Activities	38,153	41,087	45,947	49,742	53,028	56,527	60,119
.Unrestricted Special Purpose							
-Bureau Activities	--	--	--	--	--	--	--
-All Other	--	--	--	--	--	--	--
.Restricted	--	--	--	--	--	--	--
.Government Grants and Contracts	--	--	--	--	--	--	--
Subtotal	38,153	41,087	45,947	49,742	53,028	56,527	60,119
Administrative, Financial and Technical Services							
.Federal Salaries and Expenses	13,896	15,885	17,661	17,714	17,835	17,897	18,091
.Unrestricted General							
-Program and Administrative*	1,217	2,858	2,069	1,987	2,767	3,345	3,575
-Auxiliary Activities	--	--	--	--	--	--	--
.Unrestricted Special Purpose							
-Bureau Activities	1,112	1,206	1,507	1,549	1,589	1,419	1,356
-All Other	1,918	1,147	646	45	54	58	60
.Restricted	124	185	107	107	107	107	107
.Government Grants and Contracts	--	--	--	--	--	--	--
Subtotal	18,267	21,281	21,990	21,402	22,352	22,826	23,189
Facilities Services							
.Federal Salaries and Expenses	56,308	58,784	61,220	64,299	66,473	68,891	71,395
.Unrestricted General							
-Program and Administrative	2,188	1,465	1,440	1,467	1,565	1,612	1,661
-Auxiliary Activities	--	--	--	--	--	--	--
.Unrestricted Special Purpose							
-Bureau Activities	55	48	50	51	53	54	55
-All Other	261	226	166	144	149	157	159
.Restricted	4	--	--	--	--	--	--
.Government Grants and Contracts	--	--	--	--	--	--	--
Subtotal	58,816	60,523	62,876	65,961	68,240	70,714	73,270

* Net of SI Overhead Recovery

TABLE 2 (Continued)
SMITHSONIAN INSTITUTION
APPLICATION OF OPERATING FUNDS
BY 1987 BUDGET AND PROJECTED THROUGH FY 1993

(\$000)

(Page 4)

APPLICATION OF OPERATING FUNDS	FY 1987	FY 1988	FY 1989	FY 1990	FY 1991	FY 1992	FY 1993
Adjustments for Inflation, Pay Requirements and Grade Reductions							
.Federal Salaries and Expenses							
-Necessary Pay	--	--	1,986	4,700	7,800	10,900	14,000
-Federal Empl. Retirement System	1,700	7,245	8,686	9,291	9,361	9,393	9,500
-Grade Reductions	--	(373)	(559)	(559)	(559)	(559)	(559)
-Inflation	--	--	1,300	4,500	6,800	8,200	9,000
-Supplemental	--	3,900	8,200	13,500	18,600	23,900	29,500
Subtotal	1,700	10,772	19,613	31,432	42,002	51,834	61,441
Institutional Total							
.Federal Salaries and Expenses	188,974	208,762	227,867	265,389	282,698	293,758	301,874
.Unrestricted General							
-Program and Administrative	12,529	13,893	13,096	13,842	15,132	16,126	16,484
-Auxiliary Activities	129,037	140,866	154,359	164,816	174,729	184,729	195,359
.Unrestricted Special Purpose							
-Bureau Activities	6,677	7,165	7,801	7,856	7,884	7,830	8,006
-All Other	20,446	17,891	16,954	17,853	18,455	19,021	19,498
.Restricted	13,707	18,260	14,459	15,116	14,205	15,281	13,107
.Government Grants and Contracts	18,276	17,635	23,481	21,873	22,077	19,704	17,329
Gross Funds Applied	389,646	424,472	458,017	506,745	535,180	556,449	571,657
Less Expenses of Auxiliary and Bureau Activities	(135,714)	(148,031)	(162,160)	(172,672)	(182,613)	(192,559)	(203,365)
Net Funds Applied Before Transfers							
.Federal Salaries and Expenses	188,974	208,762	227,867	265,389	282,698	293,758	301,874
.Unrestricted General	12,529	13,893	13,096	13,842	15,132	16,126	16,484
.Unrestricted Special Purpose	20,446	17,891	16,954	17,853	18,455	19,021	19,498
.Restricted	13,707	18,260	14,459	15,116	14,205	15,281	13,107
.Government Grants and Contracts	18,276	17,635	23,481	21,873	22,077	19,704	17,329
Net Before Transfer	253,932	276,441	295,857	334,073	352,567	363,890	368,292

TABLE 2 (Continued)
SMITHSONIAN INSTITUTION
APPLICATION OF OPERATING FUNDS
FY 1987 BUDGET AND PROJECTED THROUGH FY 1993

(\$000)

(Page 5)

APPLICATION OF OPERATING FUNDS	FY 1987	FY 1988	FY 1989	FY 1990	FY 1991	FY 1992	FY 1993
Transfers: Out/(In)							
.Federal Salaries and Expenses	--	--	--	--	--	--	--
.Current Funds Transfers (Internal)							
-Unrestricted General	11,950	13,017	13,069	13,633	14,258	14,874	16,011
-Unrestricted Special Purpose	(12,028)	(13,781)	(14,261)	(15,054)	(15,680)	(16,344)	(16,985)
-Restricted	78	764	1,192	1,421	1,422	1,470	974
.Current Funds to Plant Improvement							
-Unrestricted General	--	--	--	--	--	--	--
-Unrestricted Special Purpose	(270)	--	--	--	--	4,000	--
-Restricted	--	(38)	--	--	--	--	--
.Current Funds to Endowment							
-Unrestricted General	3,025	3,025	3,025	3,025	3,025	3,025	3,025
-Unrestricted Special Purpose	221	1	1	1	(6)	(8)	(8)
-Restricted	555	650	652	654	656	657	659
Total Transfers	3,531	3,638	3,678	3,680	3,675	7,674	3,676
Net Changes in Fund Balance:							
Increase (Decrease)							
.Unrestricted General	3,036	2,000	1,500	1,400	2,500	2,750	2,750
.Unrestricted Special Purpose	(1,389)	(370)	1,019	1,028	1,319	(2,540)	1,545
.Restricted	940	(384)	333	699	1,712	982	1,069
.Government Grants and Contracts	0	0	0	0	0	0	0
Subtotal	2,587	1,246	2,852	3,127	5,531	1,192	5,364
Net Funds Applied							
.Federal Salaries and Expenses	188,974	208,762	227,867	265,389	282,698	293,758	301,874
.Unrestricted General	30,540	31,935	30,690	31,900	34,915	36,775	38,270
.Unrestricted Special Purpose	6,980	3,741	3,713	3,828	4,088	4,129	4,050
.Restricted	15,280	19,252	16,636	17,890	17,995	18,390	15,809
.Government Grants and Contracts	18,276	17,635	23,481	21,873	22,077	19,704	17,329
Net Funds Applied	260,050	281,325	302,387	340,880	361,773	372,756	377,332

CHART 1: FEDERAL OPERATING FUNDS BY ORGANIZATION Fiscal Years 1981, 1987 & 1993

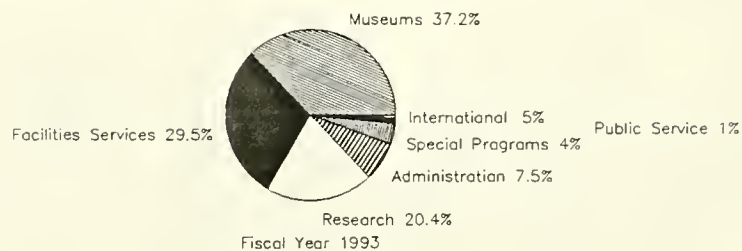
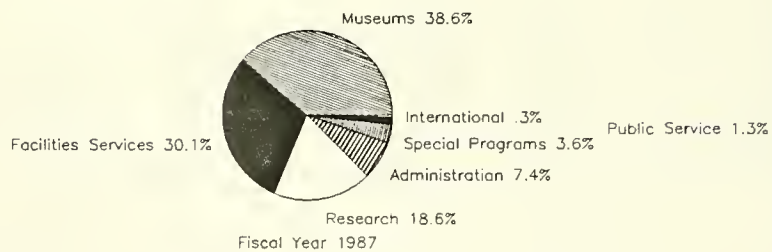
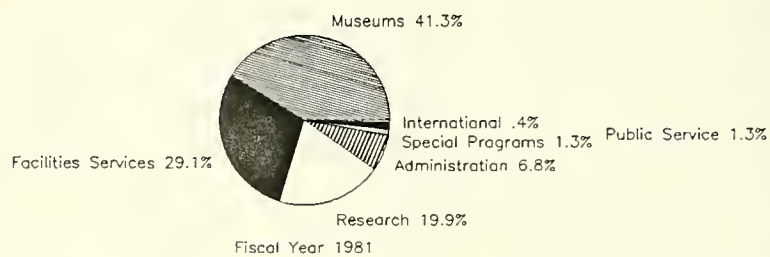
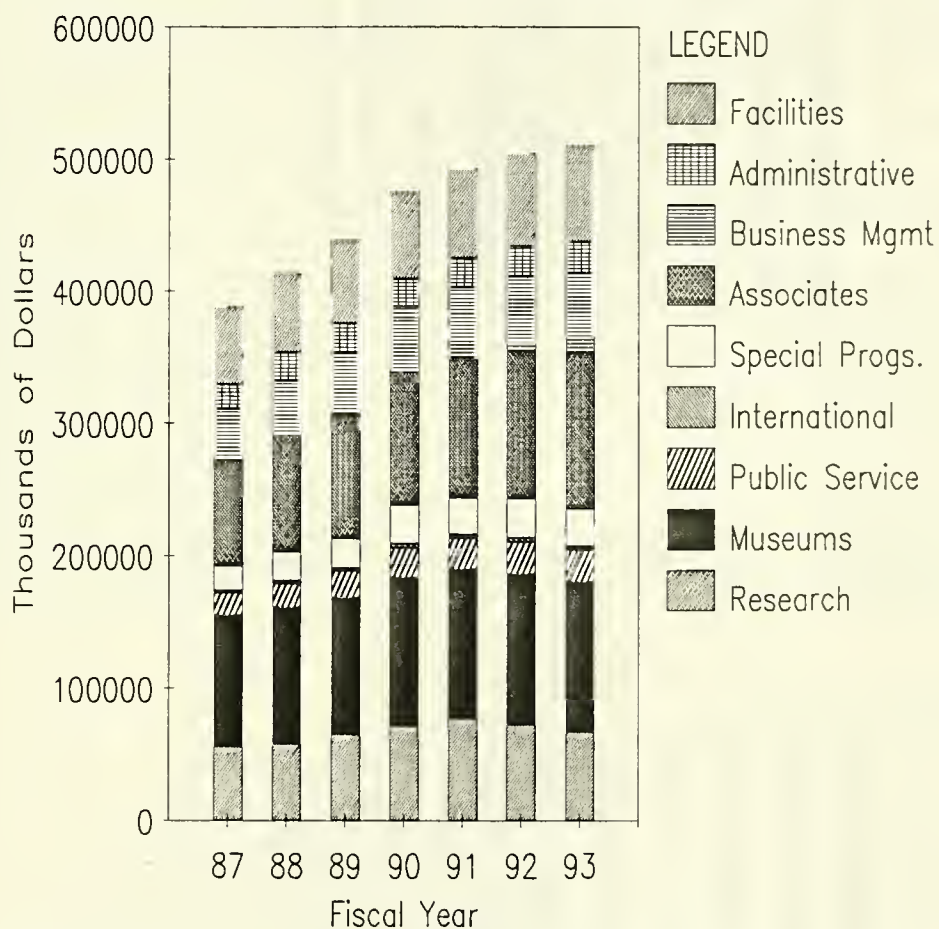


CHART 2: APPLICATION OF OPERATING FUNDS
All Fund Types
Fiscal Years 1987 Through 1993



Note: Chart excludes federal funds for Inflation and Pay accounts.

CHART 3: FEDERAL FUNDS BY ORGANIZATION
Fiscal Years 1987 Through 1993

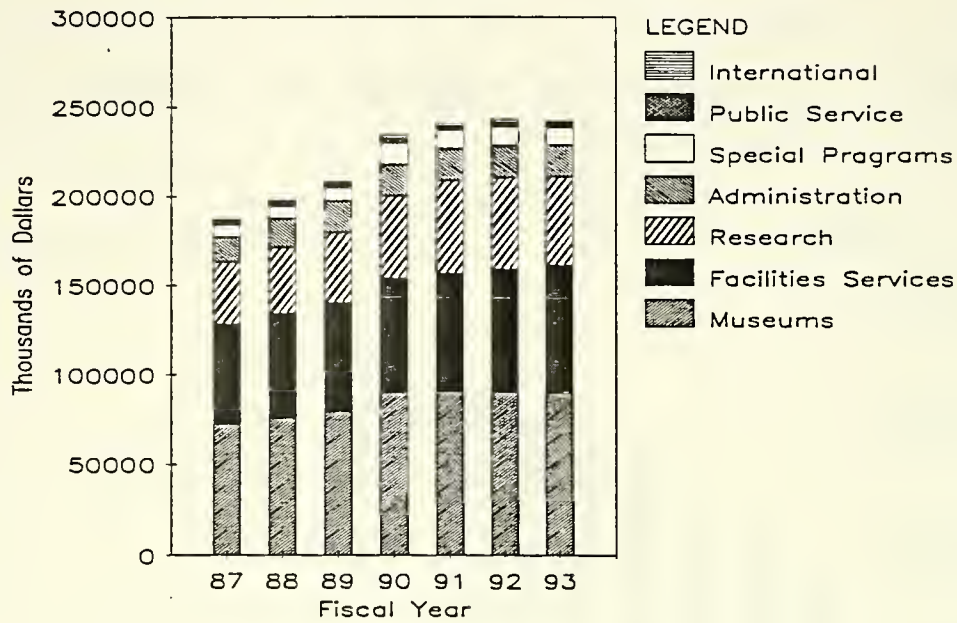


CHART 4: PERCENTAGE OF FEDERAL FUNDS
BY ORGANIZATION
Fiscal Years 1987 Through 1993

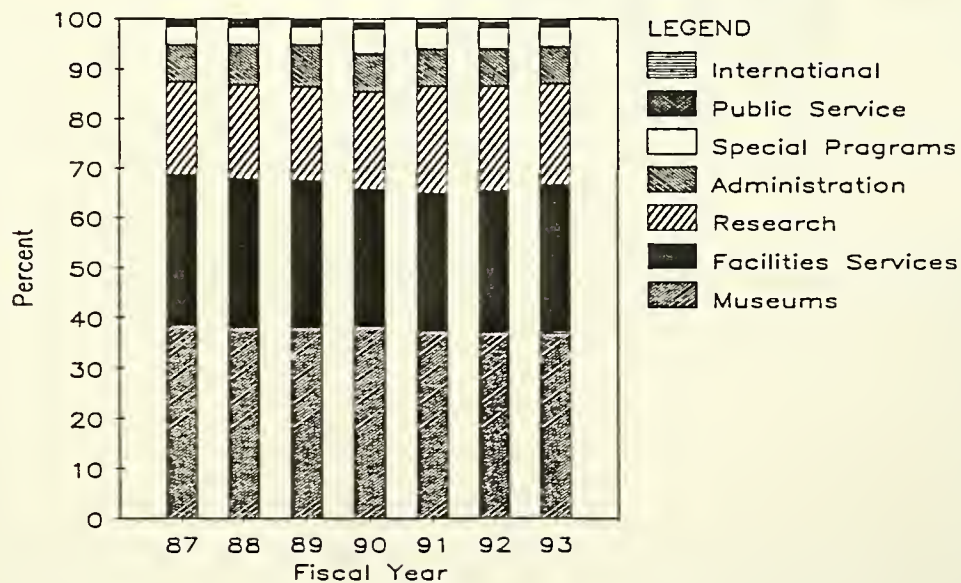


CHART 5: FEDERAL OPERATING FUNDS
BY PROGRAM CATEGORY
Fiscal Years 1987 Through 1993

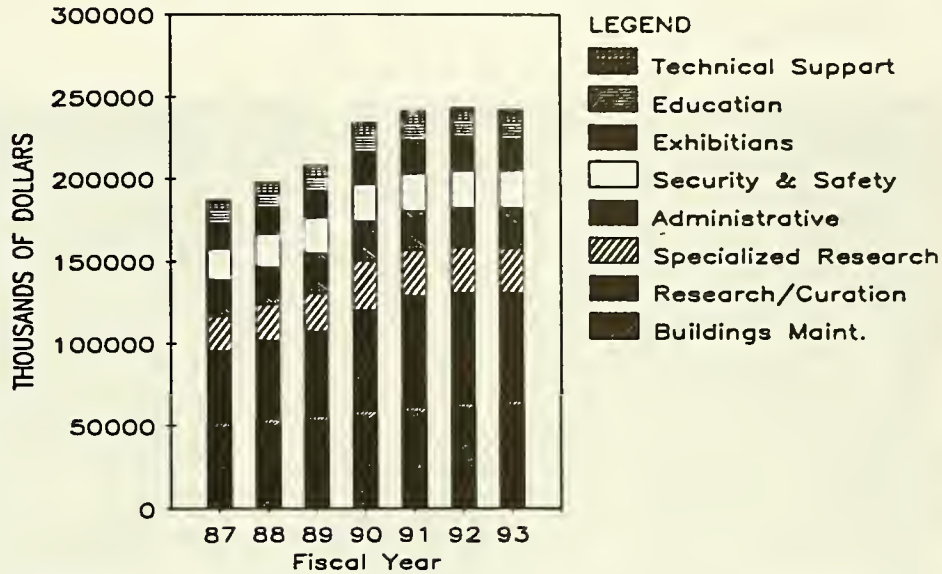
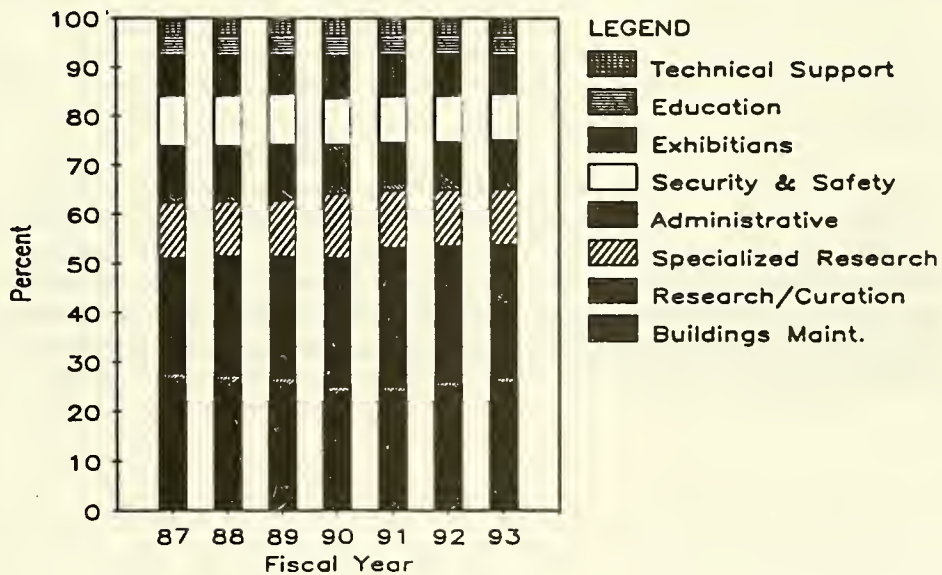
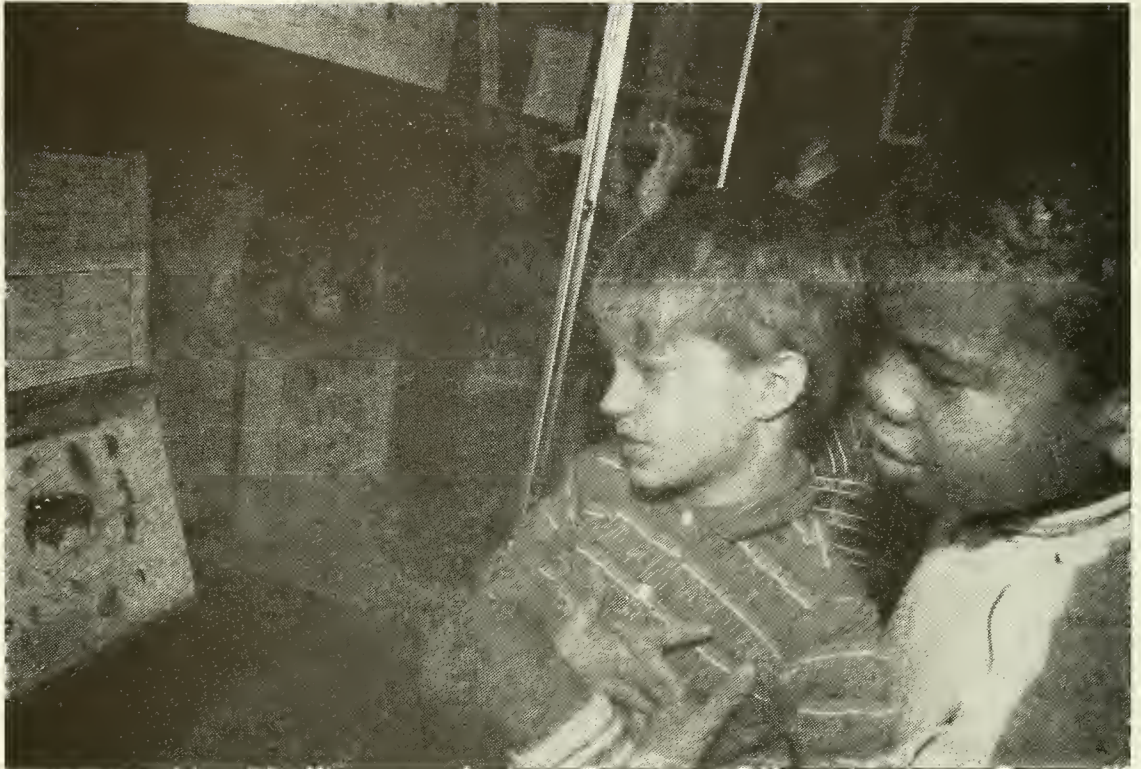


CHART 6: PERCENTAGE OF FEDERAL
OPERATING FUNDS, BY PROGRAM CATEGORY
Fiscal Years 1987 Through 1993





Two youngsters stand enthralled by a case of winged insects. Members of their elementary school class caught and mounted the "bugs" for an exhibit in a mini insect zoo. Their teacher had taken a class through the Office of Elementary and Secondary Education taught by the Insect Zoo staff (NMNH) and showed the students how to make the miniature museum in their classroom. (Photo by Rick Vargas)

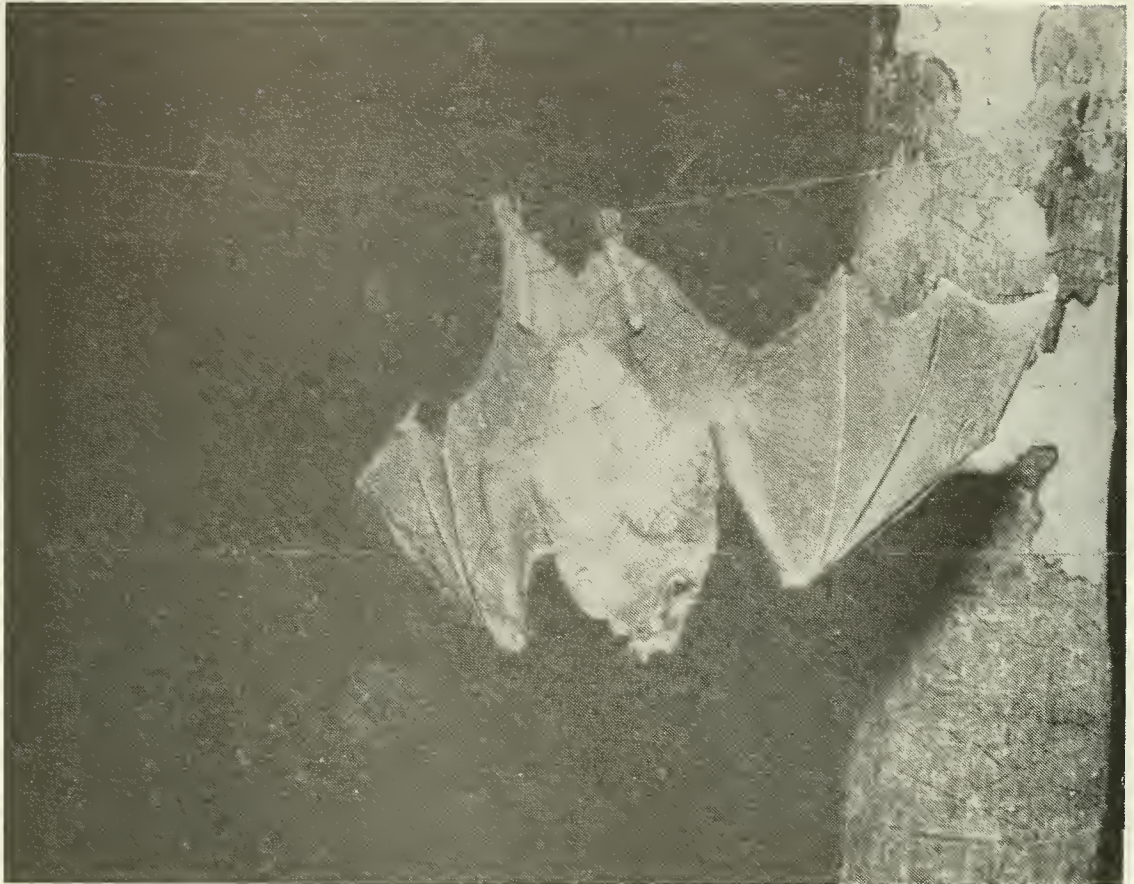
RESEARCH

The research programs of the Institution are carried out by its bureaus and museums. Research is the principal activity of the Astrophysical Observatory (SAO), Tropical Research Institute (STRI), and the Environmental Research Center (SERC) and is an important component in the Museum of Natural History (NMNH), Air and Space Museum (NASM), the Zoological Park (NZP), and the Museum of American History (NMAH), where exhibitions, and collections management are additional responsibilities. The curators in Smithsonian art museums exercise their intellectual talents and professional judgement in curating collections, preparing exhibitions, and presenting education and public programs. Examples of collections related research are included in Appendix II and other efforts are described in the chapter on Museums. In addition to being responsible for research activities of the bureaus mentioned above, the Office of the Assistant Secretary for Research is responsible for the administration and research activities of the Institution's Libraries, Archives, Joseph Henry Papers, the Office of American Studies, the International Environmental Science Program, and the Office of Fellowships and Grants. The later three activities are described in the Special Programs chapter, to be consistent with the Institution's budget presentation to the Office of Management and Budget (OMB). In addition, the FY 1989 federal budget submission to OMB contains a request for scientific instrumentation of \$1.4 million for designing, developing and eventually producing highly specialized equipment related to astrophysical research.

The Smithsonian, by virtue of its staff, collections, data bases, and research facilities, is a unique international resource in the basic sciences, arts and the humanities. Complementing industrial, federal, and university research, the Smithsonian's long-term research efforts provide critical continuity to the nation's research enterprise in a number of fields. The Institution's systematists, for example, provide the fundamental building blocks by which research in ecological/ evolutionary sciences occurs. In addition to serving the broad research community, Smithsonian research is the foundation for the Institution's public activities. The accuracy and currency of its exhibitions, the care of its collections, and the quality of its public education programs depend directly on the research of the staff. Continued support for the Institution's research is required if other elements of the Smithsonian's overall program are to succeed.

Current and Projected Resources

A breakdown of FY 1987 and projected FY 1993 research resources (before application of overhead recovery) under the oversight of the Assistant Secretary for Research, exclusive of museum based collections research or support resources, and exclusive of the items contained in the Special Programs chapter follows:



Artibeus jamaicensis (common fruit bat) was studied by the Museum of Natural History's Dr. Charles Handley at the Tropical Research Institute's facilities on Barro Colorado Island in Panama. New field techniques including the use of "mist nets" to capture the bats, allowed Handley's field crews to record a total of 48,375 captures representing 56 species. (Photo by Travis M. Whitehead)

Source of Funds	FY 1987		Projected FY 1993	
	Full-time Employment	Funds (\$000s)	Full-time Employment	Funds (\$000)
Federal Salaries & Expenses	700	\$34,861	886	\$47,527
Unrestricted Trust	115	6,413	121	7,570
Restricted Trust	17	1,750	3	2,142
Government Grants & Contracts	101	15,808	87	13,576
Total ^{1/}	933	\$58,832	1,097	\$70,815

^{1/} Activities covered in the Special Programs chapter, but managed by the Assistant Secretary for Research (including Fellowships and Grants, American Studies, Scholarly Studies, and International Environmental Science Program) amount to approximately \$1 million in federal appropriations and \$2 million in trust operations and grant and contract activities in FY 1987; these expense figures are not included here, but are contained with the Special Programs chapter.

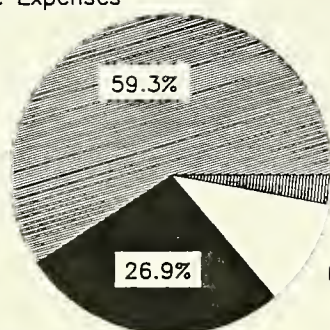
As shown in Chart 7, total funding in FY 1987 consisted of 59 percent federal appropriations, 27 percent government grants and contracts, and 14 percent nonappropriated unrestricted and restricted trust funds. By FY 1993 the distribution of funds is currently projected to be 67 percent federal funds, 19 percent government grants and contracts and 14 percent nonappropriated unrestricted and restricted trust funds. With the potential exception of the new instrumentation account, projections of additional federal program increases for research activities are generally modest. Funding will also be needed to cover uncontrollable expenses such as necessary pay and inflation.

Current and Future Year Prospectus

As the Institution moves toward the year 2000, finding solutions to the many research challenges facing the world are of growing importance. Preventing the deterioration of our natural environment with its attendant loss of biological diversity, the search for new food and medicinal resources, and the quest to understand what lies beyond our own planet, are but a few examples of the issues that need to be addressed in a more intensive fashion. These issues serve as the backdrop for setting Smithsonian research goals in the sciences. The Institution's resources must be marshalled not only to engage in fundamental research in the aforementioned fields, but to inform the public through exhibitions and educational programs of the complexities of these issues. In the arts and humanities, research is aimed at elucidating the aesthetic aspects of objects, placing objects in a better context of long-term historical and social trends and bridging understanding between distinct cultures.

Chart 7: Distribution of Funds Research Chapter

Federal Salaries & Expenses



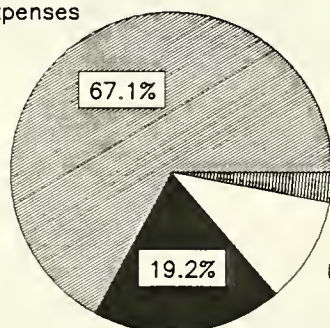
Restricted Trust 3%

Unrestricted Trust 10.9%

Gov't. Grants & Contracts

Fiscal Year 1987

Federal Salaries & Expenses



Restricted Trust 3%

Unrestricted Trust 10.7%

Gov't. Grants & Contracts

Fiscal Year 1993

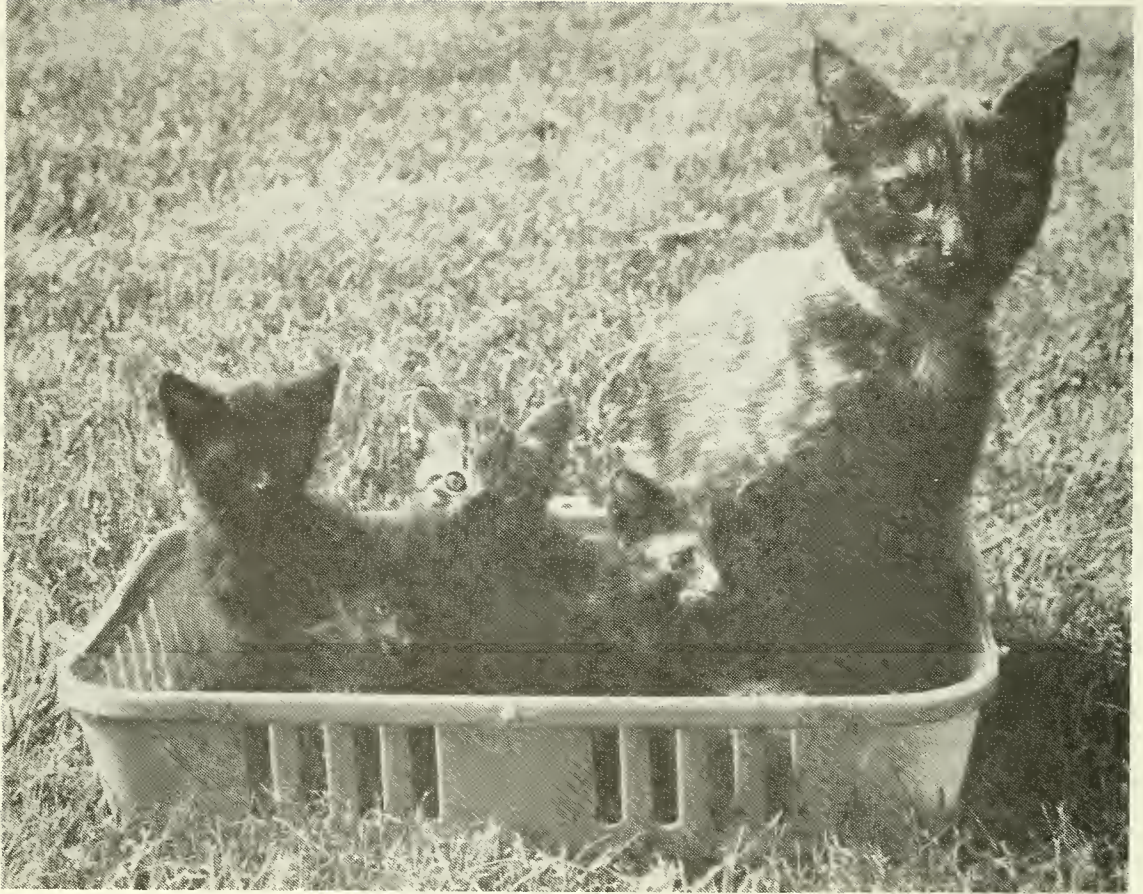
Within the last several years, considerable attention has been paid by policymakers to the accelerating pace of destruction of tropical forest ecosystems. These areas have been described as the "cradle of life," and serve an important role in preserving the global environmental balance and genetic diversity. New food resources, as well as elements for new medicinal products, are found in these fragile regions. Continued destruction of these areas results in more rapid extinction of species (most are yet undescribed) and may even threaten man's continuing existence. Understanding the workings of the tropics (what plants and animals are there now, and how they evolved to fill the niches they occupy) is critical.

The Smithsonian, because of its collections, staff and field stations, is well suited to pursue extended research on these tropical problems. Scientists from the Museum of Natural History initiated in FY 1987 a new multidisciplinary program entitled, "Biological Diversity in South America," through which they plan a comprehensive survey of Amazonian flora and fauna. This effort will have an important training component for both South and North American students. The Tropical Research Institute plans to continue its pioneering studies in tropical biology at the Barro Colorado Island Nature Monument and its two marine research stations in Panama. This bureau also is undertaking a new tropical forest research initiative in FY 1987 and will be enhancing its capabilities in plant physiology and biochemical evolution. The National Zoological Park is strengthening its activities in the tropics, especially in expanding its successful efforts in reintroducing zoo-bred primates to their original habitats in Brazil.

As a result of the Arctic Research and Policy Act of 1984, the Museum of Natural History will expand its Arctic research in archaeology, anthropology and biology, traditional areas of museum competence which have begun to attract renewed national interest. The Museum continues to assess the feasibility of a National Biological Survey for temperate North America; systematic biologists throughout the country would participate in this long-term project.

Research at the Environmental Research Center in Edgewater, Maryland, will be enhanced by construction of a 6,500 square foot laboratory addition which will include a research greenhouse and controlled condition plant growth facilities. An instrument shop is also scheduled for construction in FY 1988. The long-term research program of landscape ecology and land-sea interactions will continue.

The Zoological Park continues to strengthen its curation and animal care, and research programs at the central Rock Creek, and Front Royal, Virginia, facilities. Staff at the Zoo have started new programs in the health and genetics of zoo animals. As a first step in applying sophisticated techniques of artificial reproduction to wild animals, three litters of domestic-cat kittens were born at the Zoo as a result of in-vitro fertilization. The births followed two years of research by a team of physiologists and veterinarians and marks the first time that in-vitro fertilization has been successfully employed in any type of carnivore. The project paves the way for the use of this technique with endangered species of cats. The Zoo has been successful raising some



One of the mothers and four of the kittens from the successful in-vitro fertilization carried out by the scientists at the National Zoo. (Photo by Jessie Cohen)

private funds to finance projects of this type and a major effort is under way to insure long-term stability.

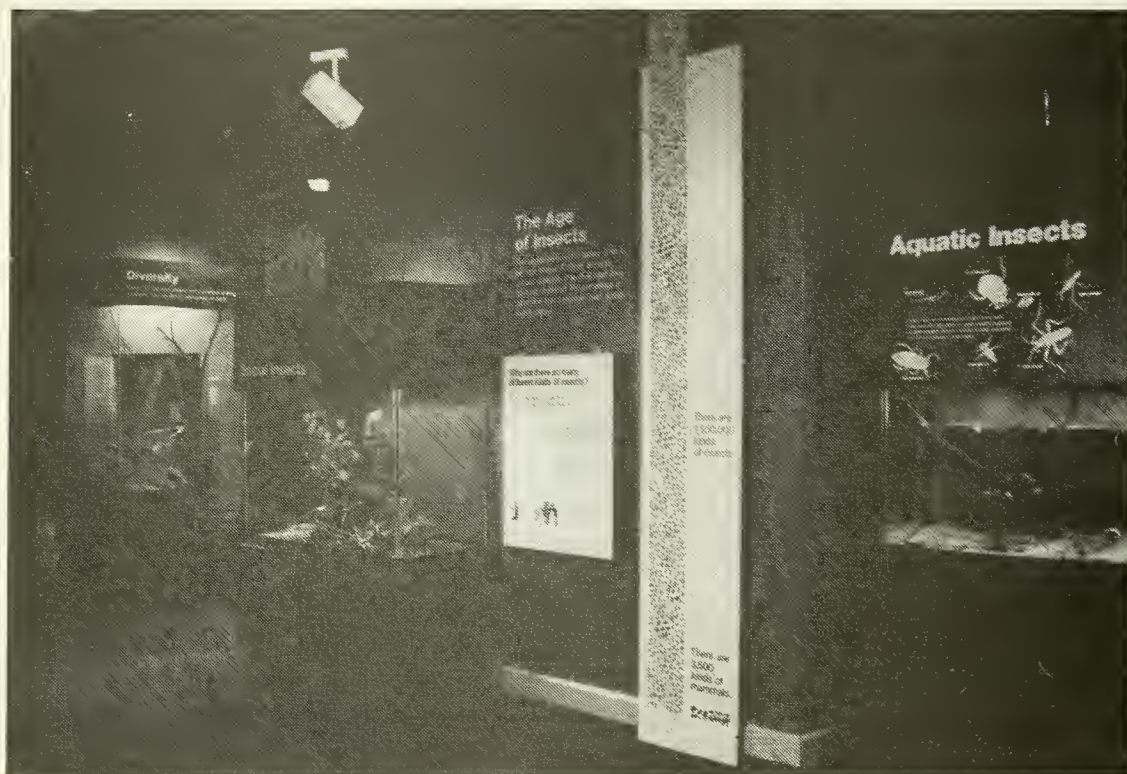
Smithsonian biologists throughout the Institution have started a modest research program in molecular systematics and evolution. Recent technical advances in electrophoresis and chromatography have opened new ways to study the evolutionary process in plants and animals. To take advantage of these new techniques, the Institution has initiated a multi-bureau effort to equip laboratories at the Museum of Natural History, the Tropical Research Institute and the Zoological Park with the necessary equipment to exploit this new approach. Funds remaining from the termination of the Rockville, Maryland laboratory are being redirected to these efforts.

Understanding our universe is the focus of research activities at the Astrophysical Observatory (SAO). A major goal of SAO is to develop an array of submillimeter telescopes that would represent a bold next step in the exploration of space through ground based astronomy. By studying the universe with instruments of high resolving power at submillimeter wavelengths, observations can be made of the birth of stars, research can be furthered on cores of quasars and galaxies, and perhaps other planetary systems can be detected. In cooperation with the University of Arizona, SAO plans also to convert the Multiple Mirror Telescope (MMT), now the world's third largest optical instrument, by replacing its current six-mirror configuration with a single large mirror 6.5 meters in diameter. This conversion would enable SAO to look far deeper into space to discern the very large scale structure of the universe and to address, perhaps definitely, the basic question of its fate. Will the universe continue to expand forever or will it eventually collapse!

The development of major scientific instrumentation for Smithsonian research programs is important to enable these programs to remain at the forefront of their fields. Because of the magnitude of the costs involved in the alteration or reconfiguration of existing instrumentation and in the fabrication of new instrumentation, and the unique aspects of the work to be done, funding for major scientific instrumentation has been requested, beginning in FY 1989. This funding has been requested in a separate line item rather than under individual bureau line-items. Since these projects will, of necessity, require long-term development as well as multi-year funding, it has also been requested that these funds be made available until expended, unlike the remainder of the Salaries and Expenses appropriation, which is a one year appropriation.

Initial funding has been requested under the Instrumentation line-item for two projects for the Smithsonian Astrophysical Observatory discussed above: (1) the development of an array of submillimeter telescopes; and (2) the conversion of the Multiple Mirror Telescope. Both of these cutting edge scientific projects involve the fabrication of major new instrumentation that will take many years to complete.

An increasing necessity of modern day research is the regular replacement of equipment and the acquisition of new state of the art instruments. Computers and other instrumentation are as vital to today's scholars as the slide rule and microscope were to 19th century



Interior view of the new Invertebrate exhibit at the National Zoo. (Photo by Jessie Cohen)

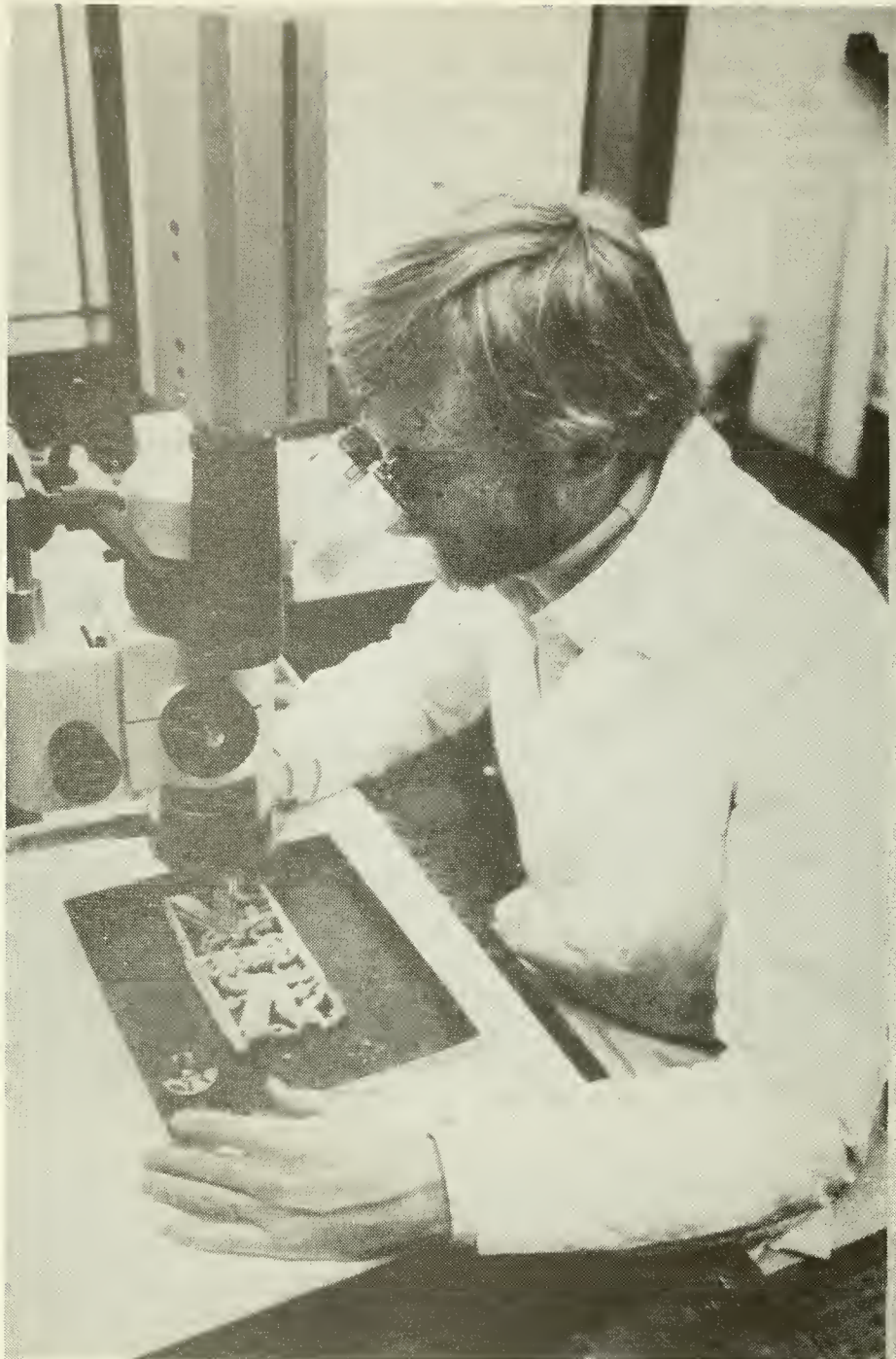
scientists. A major effort must therefore continue for equipment replacement and acquisition.

The Air and Space Museum (NASM) will continue to develop its research capabilities in image processing of space borne missions to gain further insights into the mechanisms that form and modify planetary surfaces. The history of space science is being pursued in an active program of oral history and document surveying. These important materials will form the basis for several book length studies on the origin of scientific research in space. A long range program has been started at NASM to store Air and Space archives on laser readable discs. Already some 200,000 airplane photographs have been successfully digitized on such discs and are available to the public and other museums. NASM is a pioneer in the development of this technology.

Research in the art museums continues to produce quality publications in the form of exhibit catalogues and other scholarly works. Greater communication and coordination of efforts among various bureaus (especially in American oriented activity) is an objective. One major step in this direction is the new journal produced by the Museum of American Art, featuring scholarly articles offering new interpretations and research in the field of american art. The Museum of American History looks forward to increased research through the creation of its Office of Academic Programs. This Office, for which federal funds are being sought in FY 1988, will combine existing academic programs at the Museum, formalize relationships with several universities, promote new affiliations, and provide encouragement and opportunity for intramural research. In January 1988, it will become the editorial home of the American Quarterly, the journal of the American Studies Association.

At the Cooper-Hewitt Museum in New York City, young scholars from around the world will continue to enroll in the two-year course of formal academic studies as candidates for Master of Arts degrees in the history of the decorative arts. Graduates of the program, which is co-administered by the Museum and Parsons School of Design/New School for Social Research, will pursue careers as museum professionals and independent scholars who are capable of adding to the existing body of art research.

The Joseph Henry Papers continue to publish and disseminate its volumes on the life and contribution of the Institution's first Secretary, Joseph Henry, and serve as a resource for research into the history of American science and technology, and the early history of the Institution. The Smithsonian Archives needs additional storage space, and as a major source of historical research documents, facilities will need improvement for adequate records maintenance and access. Considerable attention will need to be placed in future years on utilizing modern technology for storage and retrieval of archival records. The Smithsonian Libraries, another major institutional research support service, requires attention in a number of ways. Most significant is the implementation of a long range plan of book preservation; many portions of the collections are in danger of disintegrating. In addition, automated bibliographic systems need to be more completely developed and integrated into library operations, and increased space for the collections will require greater



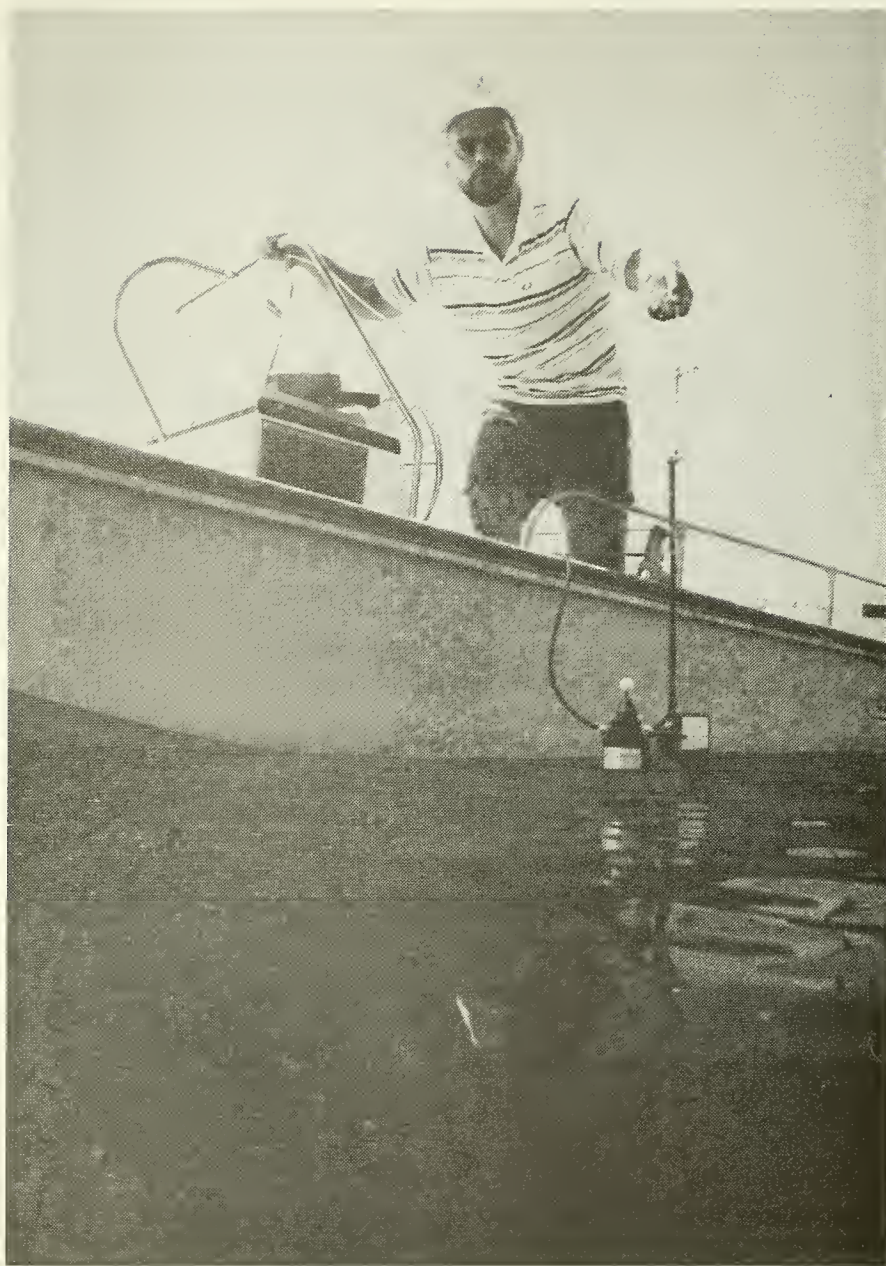
In stabilizing this 2,000-year-old ivory plaque, conservator Stephen Koob of the Arthur M. Sackler Gallery had to replace more than 300 tiny fragments. The work was done almost entirely under the microscope. (Photo by John Tsantes)

consideration in the future.

In the area of research facility requirements, a support base camp at the Whipple Observatory (\$4,500,000) is a critical priority, and appropriations are being sought in FY 1988. A request of \$2,900,000 for a new laboratory on Barro Colorado Island for the Tropical Research Institute has been requested in FY 1989, along with \$5.6 million for continued improvements and development of the Zoological Park's facilities and exhibits. In addition, planning will continue regarding development of research/support facilities in Panama for the Tropical Research Institute and for the Astrophysical Observatory's Whipple Observatory at Mount Hopkins, Arizona. Renovation and new construction for these and other bureaus are needed to strengthen programs and to meet future operational responsibilities. Additional information on facilities requirements is presented in the Facilities chapter.

In Summary

Detailed projections for bureaus and offices reporting to the Assistant Secretary for Research appear in Appendix I. Overall projections amount to \$71 million in FY 1993, or about \$12 million above FY 1987 levels with most of the increase associated with federal appropriations for the Instrumentation account, the Astrophysical Observatory, Zoological Park, and Tropical Research Institute. Trust support may increase somewhat over the planning period; grant and contract work is difficult to project because of the uncertainty surrounding future years federal funding of source agencies.



A quantum irradiance sensor allows Dr. Charles Gallegos of the Smithsonian Environmental Research Center to measure total sunlight energy available for phytoplankton photosynthesis in the Rhode River, a subestuary of the Chesapeake Bay.

MUSEUMS

Administrative restructuring occurred at the Smithsonian Institution in FY 1986. It included the establishment of two new positions; the Assistant Secretary for Museums and the Assistant Secretary for Research. These offices supersede and reconfigure the Assistant Secretaries for Science, History and Art, and Museum Programs.

Under the new organization, oversight is based more on programmatic function than on subject matter. Smithsonian programs relating to research are overseen by the Assistant Secretary for Research; programs relating to museum exhibitions, object interpretation, professional training, and collections are under the aegis of the Assistant Secretary for Museums. The resource figures, however, that appear in this chapter and others, and in Appendix I are organized around the line item budget submission to the Office of Management and Budget in order to be consistent with that presentation and with the Institution's annual financial reports, e.g. for the most part museum resources that are associated with collections-related research are included here, along with museum resources associated with such activities as exhibitions, with the exceptions of the activities appearing in Special Programs chapter and the exhibitions related research activities of the Zoological Park. Museum activities reporting to the Assistant Secretary for Museums are those of the Anacostia Museum, Center for Asian Art (including both the Freer and the Sackler Galleries), Cooper-Hewitt Museum, Hirshhorn Museum and Sculpture Garden, Air and Space Museum, Museum of African Art, Museum of American Art and the Renwick Gallery, Museum of American History, Museum of Natural History/Museum of Man, and the Portrait Gallery. The Assistant Secretary for Museums also oversees the Archives of American Art, Smithsonian Institution Traveling Exhibition Service (SITES), the Office of Horticulture, Conservation Analytical Laboratory, Office of Exhibits Central, Office of Museum Programs, Office of the Registrar, Quadrangle Facility Management and South Group Buildings Management, the trust funded Special Exhibition Program and Major Collections Acquisition Program, and some Museum Support Center activities.

Information on the Office of Horticulture, Quadrangle Facility Management and South Group Buildings Management appears in the chapter on Administration, Financial and Other Support Services and the Special Exhibition, Major Collections Acquisition and Museum Support Center appear in the Special Program chapter, also to be consistent with the FY 1989 budget presentation to the Office of Management and Budget.

Current and Projected Resources

As Smithsonian collections have grown, so have the resources associated with their exhibition, care, and research. Current funding for Museum activities consists of a mixture of appropriated federal funds, infrequent federal grants and contracts, nonappropriated restricted trust funds, and allocations of nonappropriated unrestricted trust funds. In FY 1987, resources devoted to Museums and the related support groups

appearing in this chapter amounted to approximately \$99 million and 1,854 full-time positions. A breakdown of FY 1987 and projected FY 1993 levels of resources follows:

<u>Source of Funds</u>	<u>FY 1987</u>		<u>Projected FY 1993</u>	
	<u>Full-Time Employment</u>	<u>Funds (\$000)</u>	<u>FTE</u>	<u>Funds (\$000)</u>
Federal Salaries & Expenses	1,641	\$72,343	1,928	\$ 90,132
Unrestricted trust	120	13,534	118	11,691
Restricted trust	60	11,417	44	10,112
Government Grants & Contracts	33	1,792	23	997
Total ^{1/}	1,854	\$99,086	2,113	\$112,932

^{1/} Activities covered in the Special Programs chapter, but managed by the Assistant Secretary for Museums (including Special Exhibitions, Major Collection Acquisitions, and the Museum Support Center equipping activities) amount to approximately \$4 million in federal appropriations and \$4 million from trust operations in FY 1987; these expense figures are not included here.

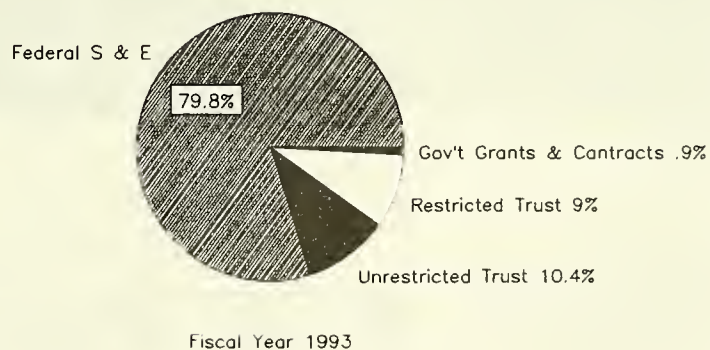
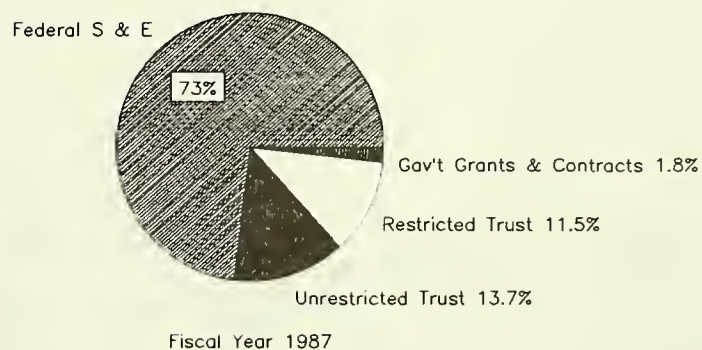
As shown in Chart 8, total funding in FY 1987 consisted of 73 percent federal appropriations, 25 percent nonappropriated unrestricted and restricted trust funds, and 2 percent government grants and contracts. By FY 1993, the distribution of funds is projected to be 80 percent federal funds, 19 percent nonappropriated unrestricted and restricted trust funds, and 1 percent government grants and contracts.

Future Year Prospectus

Interpretation and communication of the various museum activities to the public will continue to be a priority of the Office of the Assistant Secretary for Museums. The same is true in the realm of professional training, where the Smithsonian has long managed a number of significant programs. Museum training is becoming more sophisticated and requires constant incorporation of new approaches to assure that colleagues in the U.S. and abroad are being served in quality ways. New training techniques, expanded training for developing countries, and innovative audiovisual materials as teaching tools are being planned.

Emphasis on collections management, inventory, and automation activities continue as Museum priorities. Base line collections inventories, completed in FY 1983, helped to focus attention on the growing challenges of collections storage and conservation. Accessibility to collections and collections information for scholarly research and management requires continued attention and improvement to storage facilities. Collections of the Smithsonian art community are

Chart 8: Distribution of Funds Museum Chapter





Museum of Natural History researchers recovered specimens, including a 16 foot long jawbone, from a beached male sperm-wale at Hatteras Inlet in North Carolina. The Museum is the nation's central repository of information concerning stranded whales and dolphins. (Photo by Chip Clark)

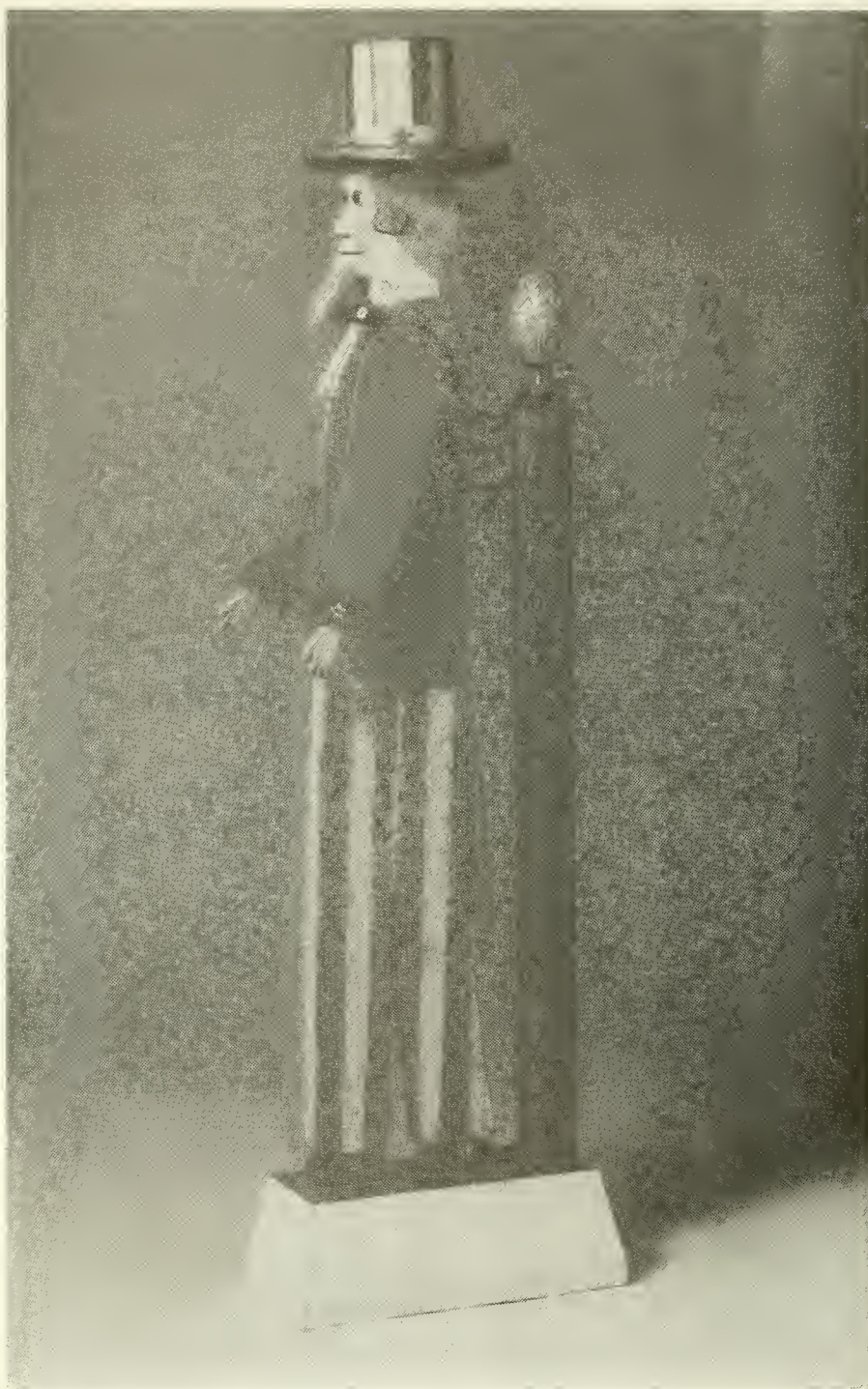
particularly in need of creative storage solutions as are those of the Air and Space Museum because of the large scale of NASM acquisitions. For example, with the recent addition of the bequest of Mr. Hirshhorn (5,900 works were added doubling the permanent collection), the Hirshhorn Museum and Sculpture Garden requires additional space. Because storage, exhibition space and other areas are inadequate for the size of the collection, in FY 1987 the Museum, working with an architectural firm, developed a tentative plan for the museum's growth over the next twenty years. In general, the Smithsonian is developing and using automated technologies for information retrieval, object control and data management in the collections arena. Timely, accessible, and meticulous collections records are viewed as necessary for the prudent management of the Nation's patrimony, and programs to this end continue. The challenge to the Institution is to move ahead with collections management at a time when adequate resources may not be available.

The bicentennial of the United States Constitution will be the second of the major celebrations marking the birth of our nation (the bicentennial of the American Revolution in 1976 being the first). This historic period (the draft of the Constitution was approved in September 1787 but not fully ratified until June 1788) will be marked with exhibitions, lectures, film, and symposia which will reacquaint today's generation with the historical context of our constitutional roots and their development over time.

The "First Federal Congress," the National Portrait Gallery's (NPG) second exhibition celebrating the Bicentennial of the Constitution of the United States, is planned for the spring of 1989. Scheduled to open the year of the 200th anniversary of the first session of Congress, this exhibition will commemorate the men who were a part of that first select group. In the fall of 1989, the Portrait Gallery plans to offer "Portraits of Distinguished American Jurists," an exhibition which will evoke the rich personalities and abilities that came into play in determining the evolution of this country's legal processes and institutions.

The Museum of American History (NMAH) will open, in October 1987, an exhibit entitled, "A More Perfect Union," and related programs which will highlight the Japanese American experience in World War II. This exhibit will deal with the complex problems facing national and state decision makers during World War II, when they had to balance constitutional guarantees of civil rights against the perceived requirements for military security. The exhibit will focus especially on issues of civil rights for Japanese-Americans and on their patriotic contributions during World War II.

The NMAH's major exhibit reinstallation program is continuing with the scheduled opening of its third exhibit entitled "A Material World" in the spring of 1988. This exhibit will explore the vast range of natural and synthetic materials and the social and economic consequences of their distribution and manufacture. Other major exhibitions are planned including the "Information Age in Technology"; commemoration of the Columbus Quincentenary; a recreation of the entrance hall of the White House, showing what the President views as he steps through his front door



The National Museum of American Art acquired a major collection of folk art objects from noted New York collector Herbert Waide Hemphill, Jr., including "Uncle Sam" shown above. Created around 1917, the sculpture is said to have been used as a recruiting sign during World War I. (Photo by Margery Byers)

("Ceremonial Court"); an examination of women's changing roles, with a highlight on their political activity ("Parlor to Politics"); and a reinstallation of the First Ladies Hall.

At the National Museum of Natural History/Museum of Man (NMNH), where true base line information on the collections is not yet complete, staff will continue to create new item and batch level data (i.e., refinement of collection level records) while updating and maintaining the growing inventory data base numbering some 3,000,000 records. The Museum is committed to a sound integrated collections management program which will guarantee better, safer care and easier access to the nation's millions of stored treasures for the education, enjoyment, and scholarly research purposes of people world-wide. Also, the Museum has recognized that advances in biological, physical, and anthropological sciences are out pacing the rate at which permanent exhibits are being renovated, causing many displays to be badly out of date. Therefore, the Museum will require additional resources in order to maintain the integrity of its permanent exhibit halls. Among the major special exhibitions in preparation at the National Museum of Natural History is "Crossroads of Continents," scheduled to open in September 1988. This exhibition will look at the history, art, and traditional cultures of the North Pacific Rim — from Siberia to southern British Columbia — and bring together, for the first time artifacts obtained by Russians from Russian America that have been housed in the Soviet Union and unexhibited Siberian collections obtained by American research teams in the early 1900s. The show will open in Washington at the Smithsonian, and then travel to New York, Chicago, Seattle, Anchorage, and Ottawa. Subsequently it will be seen at several cities in the Soviet Union.

Among many institutional exhibitions being prepared for the Columbus Quincentenary commemoration, the NMNH is developing an exhibition, titled "Seeds of Change." Schedule to open at the Smithsonian in October 1991, this exhibition will focus on the exchange of plants, animals, and diseases that occurred after Columbus' voyage of discovery. Transferred to new settings as a result of the contact between the Old and New Worlds, sugar, the potato, corn, the horse, and smallpox became powerful catalysts of change with immense consequences for humankind. Various other Smithsonian museums and galleries such as the Air and Space Museum, the Portrait Gallery, the Hirshhorn Museum and Sculpture Garden, the Museum of American History, the Museum of American Art, are planning conferences, exhibitions, publications and other activities for the Quincentenary.

The Traveling Exhibition Service (SITES), which moved into the Quadrangle in late 1986 will continue to work with Smithsonian museums and, in addition will collaborate with the International Center to organize, produce and circulate exhibitions. The inaugural exhibition for the Quadrangle's International Gallery, "Generations," is a joint project between SITES and the International Center that explores cross-cultural attitudes, life cycle imagery, and rituals surrounding human birth. The new Quadrangle facilities also enable SITES to work more closely with museum educators throughout the country: the Education Workshop in SITES' new offices will be the location of meetings and seminars to assist in the development and testing of effective, exhibition-related educational materials for the museum market. This facility also provides SITES with



Jane Norman, a conservator at the Smithsonian's Arthur M. Sackler Gallery, touches up the color over a repair on a 1,000-year-old Chinese Buddha head. (Photo by John Tsantes)

the opportunity to invite Smithsonian curators and researchers to working sessions on exhibition planning with the goal of generating more Smithsonian-originated exhibitions in the SITES program. SITES' domestic and international exhibition programs have enjoyed great success. Major international exhibitions of FY 1987 were "Child to Child: American-Soviet Children's Art" and "Dutch Paintings of the Golden Age." In late 1987, "New Horizons: American Painting 1840-1910" began its tour to three cities in the Soviet Union. SITES collaborates with Smithsonian and other museums to produce exhibitions for museums of all sizes and disciplines, libraries and cultural centers. SITES charges participation fees for exhibitions to recover programmatic costs and receives a small federal appropriation.

Annually, the Office of Exhibits Central (OEC) serves approximately forty Smithsonian units and is involved in some two hundred and fifty projects. OEC is a major source of exhibit support for the Traveling Exhibition Service for its national and international exhibition programs. To maintain productive capacity in the coming years, the Office of Exhibits Central needs to add some exhibit professionals to its staff which will help to meet Institution-wide demand for design and editing services, model making, graphics production, and exhibit fabrication.

Exhibitions, of course, continue to be the Institution's most visible means of communicating our interests and knowledge to the visiting museum public. The Institution, under its new organization, will undertake a comprehensive look at the costs of its current exhibiting enterprise, whether it is money well-spent and whether there are ways of stretching our exhibition budgets further. In a period of increasing austerity, the Institution needs to consider how the total exhibition program can be made more effective in various museums and in serving various audiences.

The Office of Museum Programs (OMP), the Museum of American History and the Museum of Natural History have been working together to strengthen Native American programs at the Smithsonian. The two museums began a new cooperative Native American Program in 1986 and with funding being sought in 1989, the Museum of American History plans to increase its internship opportunities for Native Americans, complete two books on American Indian History, produce a traveling exhibit, expand its performance and film series on Indian culture, and increase the role it plays in supporting Indian educators. The number of qualified Native Americans available to serve the more than 100 tribal museums and cultural centers and the museum profession remains discouragingly small. Although these museums hold remarkable and important collections of historical and ethnological materials, they lack resources to provide the required training themselves, or to obtain much needed technical assistance for their museum operations. Through OMP's Native American Program and the informational audiovisual programs dealing with preventive maintenance and care of collections in museums, the Institution has continued to reach out to the Native American community. The On-site Workshop Program along with the Internship and Visiting Professionals Program are responding to the increasing requests from museums by adding to the quality and number of units offered.

The Office of the Registrar (OR) will continue to maintain oversight



Stanwyn Shetler, a botanist at the National Museum of Natural History, wrote Portraits of Nature to accompany the show of Robert Bateman paintings at the Museum. (Photo by Rick Vargas)

responsibility of Institutional development and coordination of policies and practices related to the management of collections. Collections accountability, enhancement of secure and efficient methods of access to physical collections and related collection information, review of collection storage needs including material handling techniques and technologies, and timely response to professional developments -- nation-wide and internationally -- are the goals of the work of the Office of the Registrar.

Activities of the Conservation Analytical Laboratory (CAL) training program include a series of seminars for advanced specialists, refresher courses for practicing conservators, practical internships for students in conservation training programs, and advanced internships for graduates of such programs. A new entry-level training program for furniture conservators has been initiated. Based upon experience gained through these activities and on careful evaluation of the needs of the profession, future directions for the program will be identified and incorporated. CAL will consult closely with other training programs to assure that the Institution's role in national conservation training endeavors is appropriate.

The internal staff structure of CAL has been reorganized to accommodate its larger size and its several specialized functions. Working from these foundations, the Laboratory will be in a substantially stronger position to offer support to the Institution's museums and to museums generally through its research programs in conservation technology, its information program for conservation professionals, its training activities, and its support activities in conservation treatment and analysis, conservation science and archaeometry.

Now that the quadrangle facility has opened, efforts will concentrate on establishment and implementation of operating programs. The building is home to the Arthur M. Sackler Gallery and the African Art Museum, along with the International Center, the Resident and National Associates Programs and the Traveling Exhibitions Service. Efforts of the museums in the coming years will focus on establishing exhibition programs while accommodating organizational elements to the new surroundings and facilities.

The accomplishment of various construction and renovation efforts, however, remains the largest need of many Museum bureaus of the Smithsonian. In 1984, the Congress authorized the transfer of the Old Post Office Building to the Smithsonian. Concept and space planning for the renovation of the building has been initiated. Detailed design requests are planned for FY 1989. Presently this building is envisioned as an expansion of the Smithsonian's Gallery Place which houses American Art, the Portrait Gallery, and the Archives of American Art. Together, these three organizations -- their collections, historical documents and staff resources -- form the nucleus of what has become (and will continue to develop as) a major center for the study of American art and material culture. Eventual restoration of the Old Post Office Building will enable these operations to accommodate public demand for programs, and to continue development of research programs, exhibitions, lectures, publications, and collections.



The exhibit: "Field to Factory: Afro-American Migration, 1915-1940" at the National Museum of American History, chronicles the "Great Migration" of about 1.3 million blacks from the South to the North during the early 20th century. Among the first images a visitor sees in "Field to Factory" are those of NMAH curator Spencer Crew's wife, daughter and mother-in-law who served as models for the mannequins that portray a typical family on a Southern farm.

The Museum of American History has not been immune to the pressures for more space. Collections storage space is in very short supply both at the Mall Museum and at the Suitland storage facility. As a consequence, exhibit space in the Museum has over the years been incorporated for storage and office use. While the Museum will occupy a small portion of the Museum Support Center, this will relieve only a small measure of the problem. A study, carried out in 1986 in the context of the Smithsonian's master plan for Suitland, presented a projection of needs. Briefly, new facilities or new construction will be required to provide a home for the national collections, of which half are housed in the Butler buildings at Suitland. These buildings were constructed as temporary facilities several years ago and new space needs to be created in the next decade or so.

Internal planning also will continue for Air and Space Museum storage and exhibit areas. Renovation funds and new construction are needed to strengthen programs and to meet new responsibilities for public display of large air and space objects, such as the space shuttle.

Improving the care of collections is planned by the Cooper—Hewitt Museum, but added resources are needed to provide professional care to the wall covering collection, which currently has no curator, as well as to increase professional curatorial assistance in the prints and drawings, decorative arts, and textiles departments. This concern is carried forward in the FY 1989 budget submission which includes requests for two assistant curators for the prints and drawings and decorative arts departments. Space improvements are also being planned. The Carnegie Mansion renovation in the 1970s resulted in climate controlled areas and conservation facilities for the prints, drawings, and textiles collections. Significant improvements in space for the large and important decorative arts collections (furniture, glass, etc.) and the wall covering collection, now housed in largely inaccessible areas in the mansion and the adjacent deteriorating Miller House, are needed. Creation of collection storage areas, and exhibition and education facilities are basic to future year operations of the Cooper-Hewitt. Comprehensive renovation to meet these needs has been estimated to cost around \$25,000,000 and a capital campaign effort has begun. Matching appropriations for construction will be sought as fund raising efforts are assured. This facilities project will provide for the safekeeping, care and exhibition of these collections for generations to come.

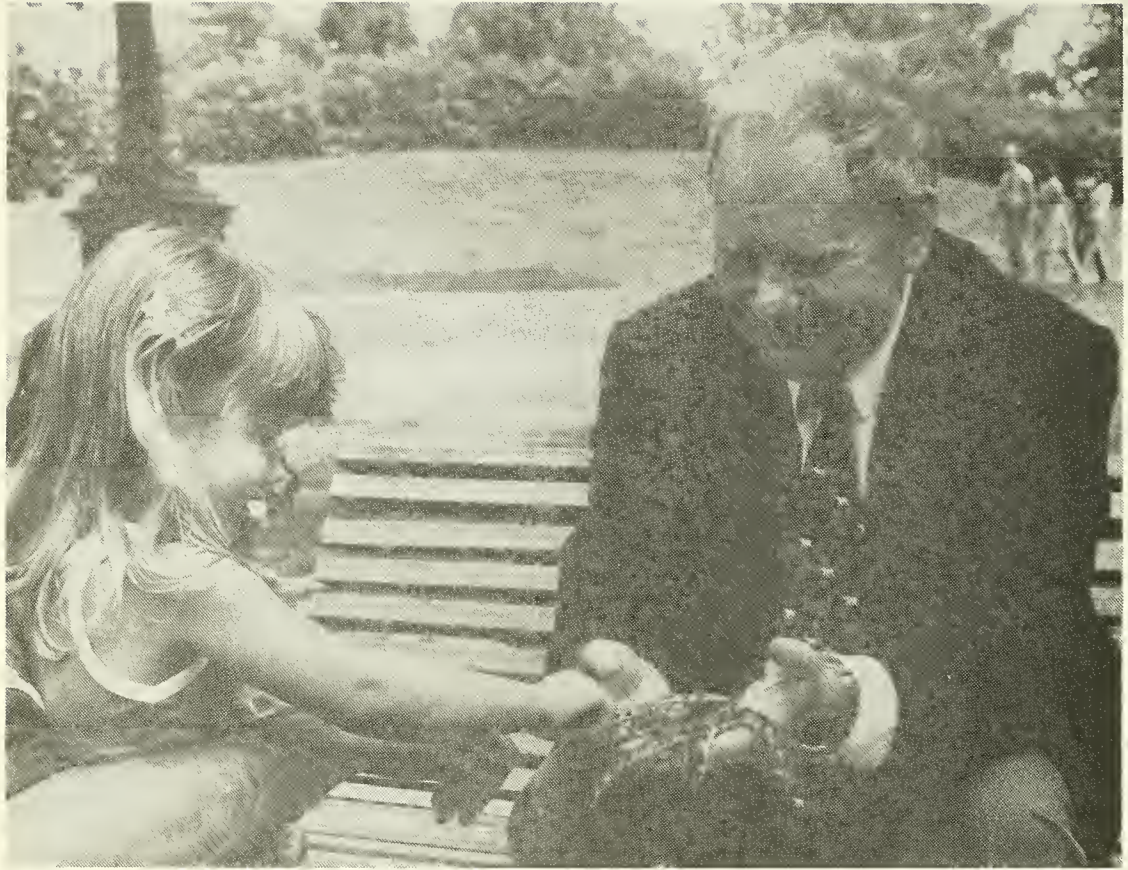
The Anacostia Museum's (AM) new Annex was completed in FY 1986 and opened to the public during the spring of 1987. This wing enables the AM to discontinue the lease on the old Carver Theatre and consolidate all of its activities — exhibitions, education, and research staff — in one location. A comprehensive survey of collections, begun in FY 1985 with the Museum of American History, to identify artifacts and material with significant Black American relevance will be completed in FY 1988. Study of these materials will lead to new insights and a greater understanding of the history and culture of Black America. Through such initiatives, the Anacostia Museum will be seeking a stronger role in its educational activities and in planning for further development for the 1990s.



This one ton fiberglass sculpture of an Allosaurus, a fierce dinosaur that roamed the Earth 140 million years ago, was part of the National Museum on Natural History exhibit "Dinosaurs, Past and Present". The exhibit is the largest and most comprehensive exhibit of dinosaur art ever assembled. (Photo by Jeff Tinsley)

In Summary

Federal resources are projected to amount to \$90 million in FY 1993, (an increase of \$18 million over FY 1987) with a large portion of the increases over FY 1987 levels associated with the Museum of Natural History, the Museum of American History, the Air and Space Museum, and the Quadrangle occupants (Museum of African Art, Sackler Gallery, and SITES). After expensing of certain collections purchases in FY 1987, basic trends in following years for restricted and unrestricted expenses are expected to remain stable. Grant and contract activity is expected to continue to be only a small portion of overall resources. Detailed projections for Museum activities are contained in Appendix I.



National Zoological Park Director Michael Robinson shows some starfish to a young visitor. (Photo by Jessie Cohen)

PUBLIC SERVICE

The Public Service programs are the central focus for the Institution's "diffusion of knowledge" activities. These are: Smithsonian magazine (contained within the Associates Program chapter because of the general support the magazine provides to many programs of the Institution and because it is viewed as a major benefit to Associates); Smithsonian Institution Press, including the university press publications, popular books marketed through direct mail, and the Smithsonian Recordings Program; Office of Elementary and Secondary Education (contained within the Special Programs chapter to provide consistency with the FY 1988 budget presentation); Visitor Information and Associate Reception Center; the Office of Telecommunications; the Office of Public Affairs; the Office of the Committee for a Wider Audience and the Cultural Education Committee; the Office of Interdisciplinary Studies; the National Science Resources Center; and the Office of Folklife Programs. The latter three offices also are incorporated within the Special Programs chapter to be consistent with the budget submission.

The Office of Interdisciplinary Studies and the Office of Folklife Programs carry out research activities in conjunction with their public outreach and diffusion activities. The vigorous growth of Smithsonian outreach trust funded programs can be attributed largely to the success of the Magazine. Through the application of trust funds generated by the Magazine and other revenue producing activities, a variety of valuable research activities, conferences, publications, and other projects have been made available in recent years to the public. While these projects enrich the kinds of services provided, the Institution has, as a result been able to reduce the requirements for federal appropriations.

Current and Projected Resources

In FY 1987, resources devoted to Public Service activities contained in this chapter amounted to about \$17.4 million and 130 full-time employees. A breakdown of FY 1987 and projected FY 1993 levels of resources follows:

<u>Sources of Funds</u>	<u>FY 1987</u>		<u>Projected FY 1993</u>	
	<u>Full-Time Employment</u>	<u>Funds (\$000s)</u>	<u>FTE</u>	<u>Funds (\$000s)</u>
Federal Salaries & Expenses	53	\$ 2,458	53	\$ 2,527
Unrestricted trust	77	14,924	82	22,365
Restricted trust	0	(16)	0	0
Government Grants & Contracts	0	0	0	0
Total ^{1/}	130	\$17,366	135	\$24,892

1/ Activities covered in the Special Programs chapter, but managed by the Assistant Secretary for Public Service (including Outreach activities, Folklife Programs, Elementary and Secondary Education, the National Science Resource Center and the Office of Interdisciplinary Studies) amount to approximately \$1 million in federal appropriations and \$3 million from trust operations and grants and contracts in FY 1987; these expense figures are not included here, but are contained within the Special Programs chapter or (in the case of Outreach activities) are spread throughout the bureau and office figure for FY 1987.

As shown in Chart 9, total funding in FY 1987 consisted of approximately 14 percent federal appropriations and 86 percent nonappropriated unrestricted trust funds. By FY 1993, funding is projected consisting of 10 percent federal funds and 90 percent nonappropriated unrestricted trust funds.

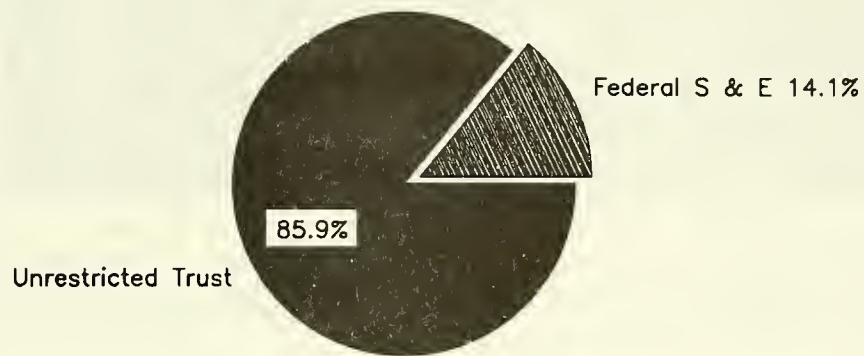
Future Year Prospectus

Public Service activities play a key role in placing the Smithsonian in contact with an estimated public of over 85 million individuals annually through publications, recordings, television, and films. Some units (Office of Interdisciplinary Studies, Office of Folklife Programs) are involved in non-collection-based increase and diffusion endeavors while others (Visitor Information and Associates' Reception Center, Office of Public Affairs, Office of Telecommunications) furnish support services to the entire Institution. Smithsonian Institution Press, Smithsonian magazine, Office of Interdisciplinary Studies, Office of Telecommunications, Office of Folklife Programs, Office of Elementary and Secondary Education, and the Office of Public Affairs produce a broad range of publications. The Office of Elementary and Secondary Education provides the Institution's major links with school systems locally and across the nation. Public Service programs and services constitute the Institution's major delivery systems for research and educational materials serving the Smithsonian's domestic and international network of individuals and organizations.

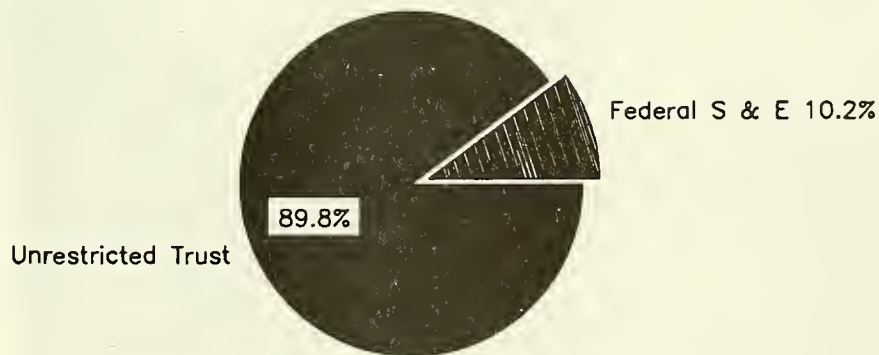
Developing more effective uses of media in the coming years is perhaps the greatest challenge facing the Smithsonian under one of its two chartered responsibilities, the diffusion of knowledge. As an outgrowth of many meetings with Smithsonian staff and others, a comprehensive media approach is being designed with the potential to transform the process of bringing knowledge into the classroom and to the general public, across the United States and abroad. The University of the Air is an approach that combines the best of television, textbooks, and the interactive disk.

In collaboration with the National Academy of Sciences, the Institution has established the National Science Resources Center (NSRC) to help revitalize the teaching of precollege science and mathematics. The main focus of the NSRC (contained within the Special Programs Chapter) is to provide resources for precollege science and mathematics education to teachers across the country. The Center augments regional efforts to improve science and mathematics teaching by serving as an information

Chart 9: Distribution of Funds Public Service Chapter



Fiscal Year 1987



Fiscal Year 1993



Festival of American Folklife visitors dance to the sound of Judy and her Suchey Brothers, a family Polka band from Alpena, Michigan. (Photo by Dane A. Penland)



"Los Matachines de Ladrillero" from Laredo, Texas, perform a secular dance as part of the "Cultural Conservation and Language: America's Many Voices" program at the Festival of American Folklife. (Photo by Rick Vargas)

center to identify and disseminate high quality teaching resources to teachers and school systems. It also serves as a focal point for the translation of new scientific developments and knowledge about the learning process into effective resources for teaching science and mathematics. NSRC organizes professional development institutes for selected teachers, principals, and curriculum supervisors to encourage the sharing of successful materials and programs, and assists in building a talent pool to help staff local program improvement efforts.

During the planning period, the Office of Elementary and Secondary Education, the Office of Interdisciplinary Studies and the NSRC, while retaining their autonomy, will work together to bring Smithsonian education into sharper focus and to improve its quality and cost effectiveness. This joint effort is expected to play an important complementary role in launching and stabilizing the new starts in electronic media.

A National Demonstration Laboratory for Interactive Educational Technologies (NDL) is an additional converging effort established in association with the Interactive Video Consortium, an organization of public broadcasting stations. As a primary goal for its first few years, the NDL will set up a demonstration facility for planners of education programs to examine interactive technologies. Future year activities may include sponsoring symposia on related topics and conducting research on available interactive materials.

As a continuation of the Institution's outreach efforts begun in 1983 with the establishment of the Committee for a Wider Audience, a new Cultural Education Committee has been established which is designed to help the Smithsonian better address museum issues associated with serving the growing cultural and ethnic diversity interests of the United States. This new committee is comprised of distinguished Washingtonians from major U.S. Cultural groups (Afro-, Asian-, Hispanic-, Native and other Americans). The Cultural Education Committee will assist senior management in the task of broadening outreach through more varied cultural programming, representation in exhibits, and in developing resources and a more diversified Associate and Contributing membership to undergird these efforts. The Office of Public Affairs will continue to seek wider audiences around the nation with news about the Institution's research, exploration, exhibition, and other activities.

Work will continue towards completion of the Smithsonian Information Center in the Castle Building. Funding for the \$2.7 million project is being raised privately, with leadership gifts from the Pew Memorial Trust, The Kresge Foundation and the Morris and Gwendolyn Cafritz Foundation as well as generous contributions from the Smithsonian's Contributing Membership Program, National Associates Board and James Smithsonian Society. Additional trust funding is forecast for the Visitor Information and Associates' Reception Center to support the resulting increase in services to the general public and to respond to an expected growth in telephone and written inquiries.



Josephine Sedlechy-Borsum, sports enthusiast and shop owner from Baldwin, Michigan, demonstrates fly tying to young participants in the Festival of American Folklife. (Photo by Dane A. Penland)

In Summary

Overall trust funded activities are projected to increase from about \$15 million in FY 1987 to approximately \$22 million in FY 1993, but much of this is attributable to increases in expenses associated with revenue producing activities of the SI Press. Detailed projections for Public Service are contained in Appendix I.

DIRECTORATE OF
INTERNATIONAL ACTIVITIES

The Directorate of International Activities (DIA) monitors, coordinates, and enhances the Smithsonian-wide endeavors in the international field. Its work is conducted in three divisions: a program staff primarily responsible for planning the programs of the International Center and for providing necessary liaison and coordination for other institutional activities; an Office of Service and Protocol, which deals with such items as visas, passports, and clearances with the Department of State and foreign governments; and an Office of Publications Exchange, which serves as a clearing house with overseas institutions for exchange of published documents. DIA also coordinates Smithsonian planning for the 1992 commemoration of the 500th anniversary of the landing of Columbus in the Americas, and administers the Special Foreign Currency Program. During the latter part of FY 1987, an internal review of DIA was undertaken. The results of this review are currently being studied, and may lead to some rearticulation of its activities to reinforce Smithsonian international activities.

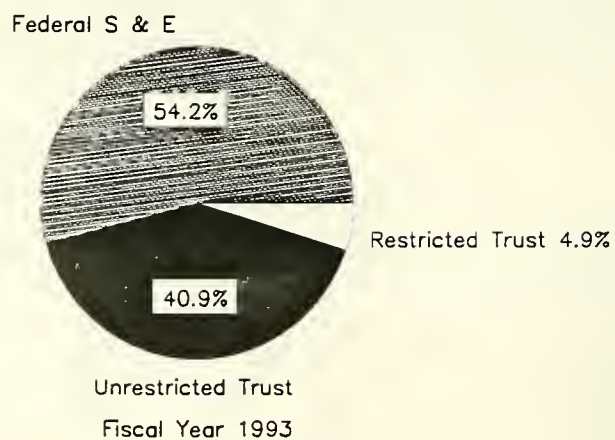
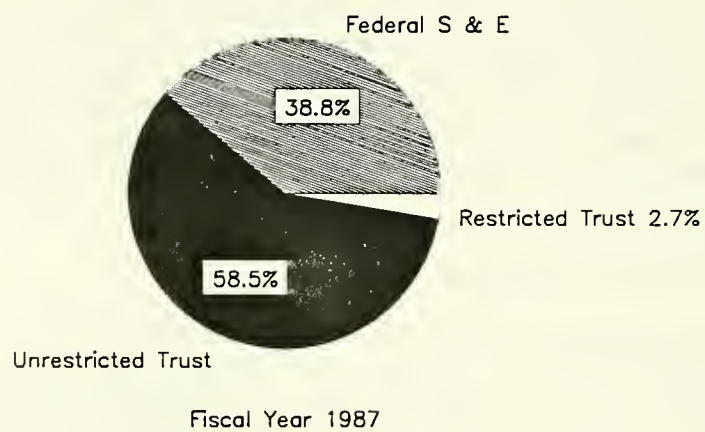
Current and Projected Resources

Most of the support for the Directorate in FY 1987 came from non-appropriated trust funds. Of the \$2 million in available FY 1987 funds, approximately \$955,000 or 60 percent were nonappropriated unrestricted trust funds. As Chart 10 indicates, federal support over the period is expected to be a growing portion of the DIA support. In the intervening years FY 1988-92, increased federal resources are projected for the Columbus Quincentenary activities; these stabilize in the years following. A breakdown of FY 1987 and projected FY 1993 resource levels follows.

<u>Source of Funds</u>	<u>FY 1987</u>		<u>Projected FY 1993</u>	
	<u>Full-time Employment</u>	<u>Funds (\$000s)</u>	<u>Full-time Employment</u>	<u>Funds (\$000s)</u>
Federal Salaries & Expenses	12	\$ 634	12	\$1,134
Unrestricted trust	11	955	10	857
Restricted trust	0	44	0	103
Government Grants & Contracts	0	0	0	0
Total	23	\$1,633	22	\$2,094

Within available resources, the Office of Service and Protocol will continue to provide basic services necessary for the coordination of international aspects of Smithsonian research and museum programs. The

Chart 10: Distribution of Funds
International Activities Chapter



Office of Publications Exchange will continue to foster scholarly interchange by enabling learned societies and universities in the United States to exchange their publications with those of their foreign counterparts.

Future Year Prospectus

In 1986 the Directorate, in cooperation with the National Museum of Natural History and the United States Agency for International Development UNESCO Man and the Biosphere Program, undertook development of a new international program on biological diversity inventory procedures. The program was designed to develop a data base management system that will provide biological inventories of selected species-rich sites such as Biosphere Reserves, National Parks and Reserves, and other protected areas of developing countries. One of the most important aspects of this new project is the training of biologists and other related professionals from developing countries in the use of the inventory procedures, so that they can conduct their own biological inventories and assist in cataloging bioresources within their respective countries. As a first step, with support from the World Heritage Program of UNESCO and Man and the Biosphere, field training workshops are to be conducted in the fall of 1987 in Biosphere Reserves in Bolivia and Peru.

The exhibition titled "Generations" which opened in September 1987, with the public opening of the Quadrangle, is a multi-disciplinary, multi-cultural exploration of the art and rituals associated with birth from ancient times to the present. Of particular importance in the exhibition is the interpretation of non-western materials in context, through concentration on the ways certain cultures view this subject, how they incorporate it in their world view, how they deal with its reality as well as its symbolism, and how they express these ideas and concepts in material form. A series of related public forums in FY 1988 entitled "Face to Face with the Next Generation" will allow for the further examination of issues that have a direct bearing on the future education, health, and social well-being of children throughout the world.

The second major exhibition in the International Center Gallery, "Tropical Rainforests: A Disappearing Treasure" organized by Smithsonian Institution Traveling Exhibition Service, is scheduled for May of 1988. The goals of this exhibition are to alert the public to the problems confronting tropical ecosystems, especially forest, and to present and interpret ongoing efforts in research and conservation. A parallel series of scholarly and public programs are planned, which will provide more in-depth information on a variety of topics not easily translated into the exhibition. The programs will assume three different formats -- film series, public lecture series, and scientific symposia and seminars; all will be designed to appeal to a wide audience. Over FY 1989-93, International Center activities will also be directed to research and cultural studies, and increased public understanding of the Caribbean and Latin America.

Plans continue for a centrally coordinated pan-institutional Columbus Quincentenary commemoration. Scheduled for the fall of FY 1987, is a public symposium entitled "Americans before Columbus: Ice Age Origins." The all day symposium will be attended by teachers, professors, students

and interested public. Educational material based on the symposium is planned for publication in FY 1988. Substantial growth is projected for the Institution over the next five years associated with various bureau Columbus Quincentenary activities, and these resources are contained here and within the various bureau and office projections in Appendix I. Included are several scholarly conferences, numerous public programs and four to six major exhibitions currently in various states of planning covering potential topics such as contemporary art of Latin America, and important plants that were introduced into both the Old and New Worlds as a result of Euro-American contact. This program is directed at stimulating public and scholarly interest in the historical background of Columbus' voyage and its impact on the past and present cultures of North, Middle and South America. Planning for the 1992 observance of International Space Year (ISY) includes the theme of exploration. It is possible, as concrete plans develop for the ISY, that areas of congruence with the Smithsonian's Quincentenary plans may emerge and cooperative projects developed.

In Summary

Operational support for DIA activities are projected at about \$2 million by FY 1993, an increase of about \$400,000 over FY 1987 levels, largely due to follow-on costs of publications and exhibit maintenance resulting from Quincentenary commemorations. Restricted and unrestricted operations are expected to remain stable at about \$1 million.

SPECIAL PROGRAMS

Special Programs encompass a variety of activities, each managed by an appropriate Assistant Secretary. The grouping of these activities corresponds to the assembly of the Institution's budget to Congress and the annual financial reports. Special Programs include the Offices of American Studies and Folklife Programs, the International Environmental Science Program, Academic and Educational Programs (including the Office of Interdisciplinary Studies, the Office of Elementary and Secondary Education, the Office of Fellowships and Grants, and the National Science Resources Center); and the trust funded Collections Acquisition, Scholarly Studies, Education, and Special Exhibition and Publication Programs. This chapter also contains the equipping, move, and operating requirements for the Museum Support Center. The resources associated with the International Environmental Science Program, the Fellowship Programs of the Institution, and the trust funded Collections Acquisition, Scholarly Studies, Education, and Special Exhibition funds are generally available to all organizations of the Institution if they meet standards and selection procedures.

Current and Projected Resources

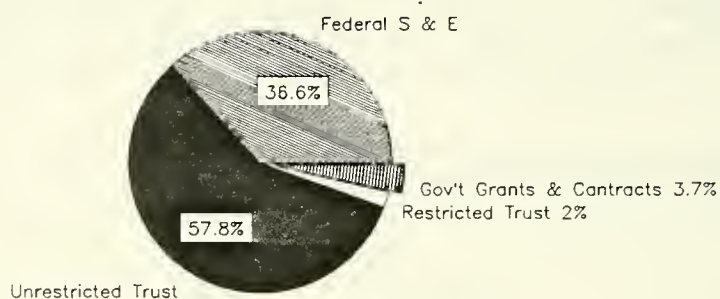
<u>Source of Funds</u>	<u>FY 1987</u>		<u>Projected FY 1993</u>	
	<u>Full-time Employment</u>	<u>Funds (\$000s)</u>	<u>FTE</u>	<u>Funds (\$000s)</u>
Federal Salaries & Expenses	76	\$ 6,774	96	\$ 9,627
Unrestricted trust	23	10,689	25	15,627
Restricted trust	0	363	0	623
Government Grants & Contracts	0	676	0	2,756
Total	99	\$18,502	121	\$28,633

Chart 11 reflects the impact of the expected growth in grant and contract support for the Folklife program activities involving its annual festivals as well as future year recording and archival activities. Grants and contracts are expected to increase from about 4 percent to 10 percent of basic support.

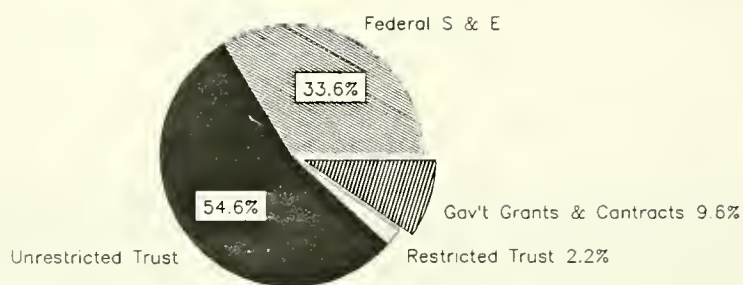
Future Year Prospectus

The Office of Folklife Programs (OFP), which reports to the Assistant Secretary for Public Service, engages in the documentation, analysis, presentation and conservation of living folklife traditions. In addition to the scholarly study of folklife, the Office endeavors through its public programs to give national recognition to, and educate wider audiences about, a variety of traditional cultural forms. The Office will continue to perform research for, and to plan and produce the annual Festival of American Folklife, which takes place during the two-week

Chart 11: Distribution of Funds Special Programs Chapter



Fiscal Year 1987



Fiscal Year 1993

period at the end of June and over the July 4th holiday weekend. The Office plans to expand the research and educational use of its archives, which includes recordings of Festival performances, fieldwork interviews, and documentation of other Office projects, as well as the newly acquired Folkways Records materials in the Moses and Francis Asch archive. OFP will expand its interaction with national and international scholars through collaborative projects, and continue its research and publications programs. In addition, a permanent storage facility for Festival equipment and production material will be necessary in future years.

The International Environmental Program, which is administered by the Assistant Secretary for Research, was established in the early 1970s to promote interbureau research on environmental matters by funding special, long-term projects using the principal scientific strengths of such organizations as the Tropical Research Institute, Smithsonian Environmental Research Center, Natural History Museum, and the Zoo. Over the planning period, additional sites are contemplated for research in biological diversity; these will most likely be located in neotropical or old world tropical areas.

The Office of Fellowships and Grants, which reports to the Assistant Secretary for Research, administers the Institution's fellowship programs and visiting academic appointments and internships. This is a high priority program of the Institution funded largely through trust resources except for most administrative staff costs. Future year resources devoted to fellowships and grants are projected to increase, if the revenue producing activities of the Institution continue to perform in a satisfactory fashion, allowing for larger stipends and more varied types of appointments and awards. Continued increases in trust funding will permit expansion of the program, particularly to include two and three year post-doctoral awards while still maintaining the overall number of awards. A highly successful short-term Visitor and Workshop program will be continued. Increases are also planned for the prestigious Regents Fellowships. These awards are offered to scholars of distinction to conduct in-residence studies of major importance. OFG administers the Visiting Associates Program which brings faculty from all over the country, with a commitment to enhancing minority education, to the Smithsonian to learn of its research activities and opportunities. Plans include continuing this program, as well as expanding opportunities for minority students and scholars through internships, fellowships and other academic programs such as intensive introductory courses in Smithsonian fields of research. Furthermore, plans are underway to develop a new program to assist scholars who work with the Institution's archival materials.

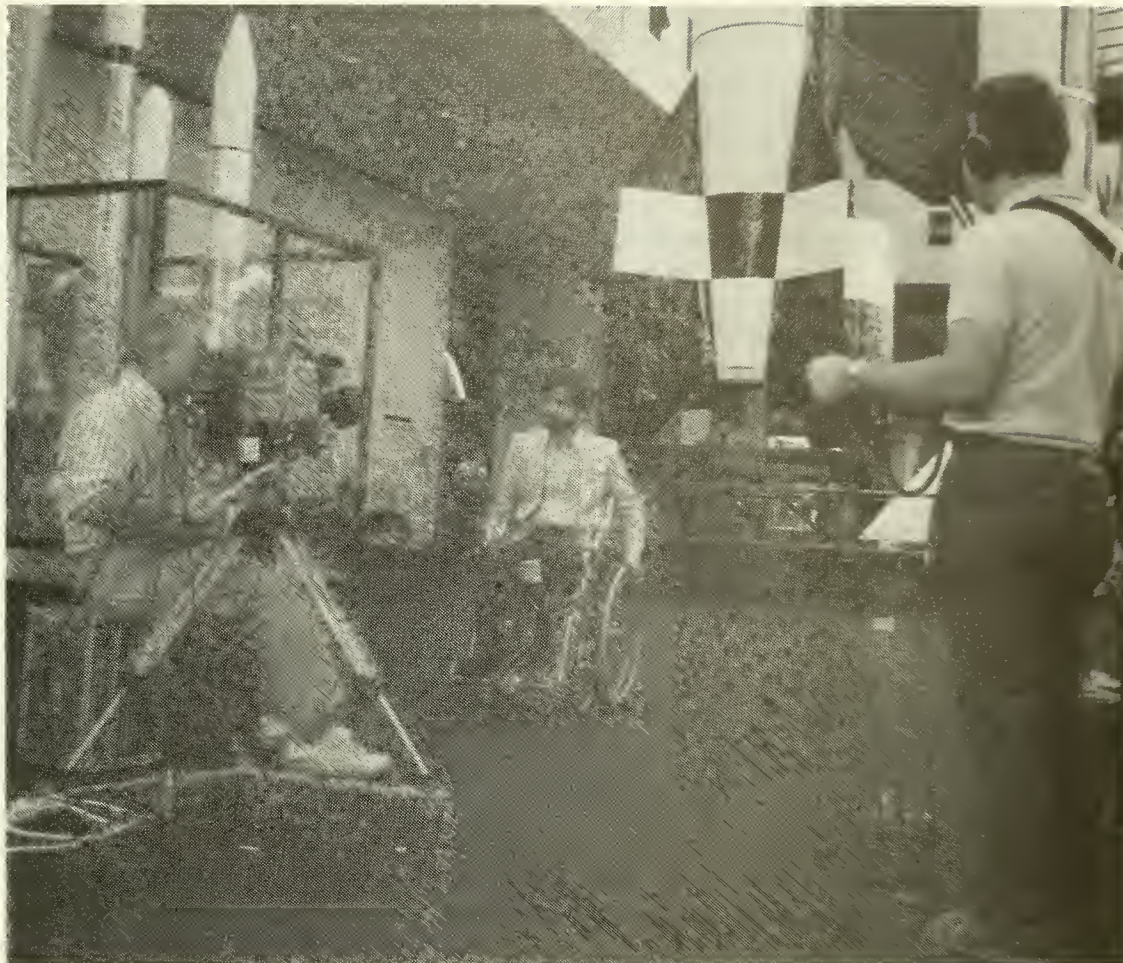
The Office of Interdisciplinary Studies (OIS), which reports to the Assistant Secretary for Public Service, and which was formerly titled the Office of Smithsonian Symposia and Seminars, is involved in the Institution's observances of the 200th anniversary of the U.S. Constitution and Bill of Rights. The Smithsonian's ninth international symposium, "Constitutional Roots, Rights, and Responsibilities," was held in May 1987; a symposium on the theme "Afro Americans and the Evolution of a Living Constitution" is scheduled for March 1988. Both will produce scholarly and curriculum materials. The Office is in the early stages of

preparing a symposium for the Columbus Quincentenary in 1992. A number of seminars and special colloquia will contribute further to increasing and diffusing knowledge in the sciences and humanities within the Smithsonian and around the world.

The Office of Elementary and Secondary Education (OESE), which reports to the Assistant Secretary for Public Service, will work to strengthen the Institution's role in providing workshops, publications, and various services to the local and national precollege educational community in the United States. In future years, more teacher training, expanded production of supplementary curriculum materials, and concerted efforts to strengthen Smithsonian relationships with museums and schools, will be undertaken. A book series for children is planned, along with learning materials for hospitalized children.

The National Science Resources Center (NSRC), which reports to the Assistant Secretary for Public Service, has been established by the Smithsonian Institution and the National Academy of Sciences. During the next five years, one of the National Science Resources Center's priorities will be the improvement of science teaching in the nation's elementary schools. The NSRC will also contribute to the improvement of science and mathematics teaching in the nation's schools by establishing a science and mathematics curriculum resource center and educational technology laboratory; developing and publishing resource materials for science and mathematics teachers, with an initial focus on elementary school science; and organizing an outreach program of dissemination and leadership-development activities for teachers and school systems. The NSRC receives support from the Smithsonian Institution and core resources for the development of program initiatives, which furthers sponsorship from the private sector. Funding for projects is raised by the National Academy of Sciences currently estimated at a level of approximately \$500,000 per year.

Collections Acquisition, Scholarly Studies, Education, and Special Exhibition Programs. In FY 1978, the Regents established a special trust account to be used for strengthening the Smithsonian's collections through purchase of major works of art and objects of scientific and historical value, and to allow for the funding of special projects important to the research and educational functions of the Institution. Since inception, about \$26,000,000 in unrestricted trust funds have been used by the programs. These funds, along with some earmarked in each year for similar purposes, make possible important activities in various museums and other bureaus of the Institution, including major acquisitions and exhibitions. The funds have also supported scholarly studies and educational efforts, scientific workshops and conferences, student intern programs, presentations, programs and performances for special groups including the handicapped and the elderly, and weekend films and lectures for the general public. Beginning in FY 1986, the Regents also approved funds for a special publications program; this effort is intended to support annual publication of one or two meritorious scholarly books by Smithsonian staff. It is anticipated, given available funds, that these Regents' programs will continue during the planning period.



With a grant from National Medical Enterprises, Inc. of Los Angeles, the Institution's Office of Elementary and Secondary Education developed a manual and a videotape cassette to teach docents, tour guides and others appropriate ways to assist disabled visitors. In a segment of training tape shot at the National Air and Space Museum, Mark Sakaley, a volunteer from the Department of Commerce, narrates. (Photo by Laura Minor)

Museum Support Center Equipment, Move and Operations. Since the opening of the Museum Support Center (MSC) in 1983, most of the planned laboratories have been established and have become operational. Administrative and facilities management functions, including the automated data processing center, continue to serve occupants and users of the MSC. The move of the collections represents an unprecedented task involving many millions of objects and specimens. The move of "wet" collections (those preserved in alcohol) was completed in 1985. Many other specimens and collections have followed, and more are planned. The entire transfer of collections will occur over a multi-year period, with portions being moved only when construction of decks in the various pods are completed and appropriate storage equipment has been purchased, delivered and installed. The contractor for the overall project for deck construction and procurement of cabinetry for the initial move into pods 1,2, and 4 has recently been terminated by the General Services Administration. Contractor's surety is currently determining whether or not it will participate in the reprocurement of the equipment. The move of the collections is limited, and the ability to forecast with certainty when the facility will be fully utilized and operational is not feasible at the present time. Level funding of around \$3,000,000 is being sought during FY 1989 for the purchase of equipment for storage of large objects, shelves drawers and storage cabinets. Additional funding for FY 1989-93 is projected as needed to make full utilization of available storage space in the MSC. Actual costs for the collection storage equipment to be procured during the period may vary as a result of actual bids received at the time of procurement and the inflation rate.

In Summary

Equipment and moving costs for the Museum Support Center are expected to continue over the planning period; FY 1989 levels are being sought at about \$3 million; these are projected as peaking in FY 1990 at about \$6 million, and then declining to about \$5 million by FY 1993. Significant trust increases for special programs are projected for FY 1988-93 for the Special Regents Programs, i.e. Collections Acquisition, Scholarly Studies, Education, and the Special Exhibition activities. As is the case for other trust funded programs, this support is contingent in future years on economic conditions, institutional priorities, and the abilities of the various auxiliary and revenue producing activities to sustain their popularity and financial performances. The Office of Folklife Programs is expecting major increases in grant and contract support for the annual festivals and other activities.

ASSOCIATES PROGRAMS

Founded in 1965 on the 200th birthday of James Smithson, the original Associate Program was designed especially for residents of the Washington metropolitan area, drawing on the varied resources of the Institution to provide educational and cultural opportunities to individuals or families who chose to join. The larger institutional aims in public education, however, have always been to make Smithsonian resources increasingly accessible to people of all ages and without regard to their geographic distance from the National Mall. With the establishment of the Smithsonian magazine in April 1970 as a major benefit and feature of a membership program, the original Smithsonian Associate Program has evolved now to include separate National and Resident organizations which offer educational and learning experiences geared to public constituencies in the Washington area, as well as across the country.

This chapter covers future plans, changes in activities, and resource estimates for Associates programs, including the National and Resident Associate Programs, the Office of Membership and Development which coordinates these programs, and the Smithsonian magazine (part of the Office of Public Service). The recently established Air and Space magazine is included in this chapter because of revenue producing and constituency development potential.

Current and Projected Resources

In FY 1987 these Associates Programs have revenues totaling approximately \$95 million. Minor amounts also are available from special purpose funds and restricted gifts and grants. As a group they generated about \$15 in net unrestricted trust income for the Institution in FY 1987 after cost of sales, payroll, and other operating expenses. Gross expenses for unrestricted trust Associate operations amounted to about \$80 million.

National and international study tours, lectures and seminars in Washington and across the U.S., and contributing membership activities are the ways through which the National Associate Program serves members without regard to their geographic location. The Resident Associate Program offers a variety of classes, lectures, tours, and other activities for members in the metropolitan Washington area; it has generally been self-supporting since 1972, generating modest net funds each year which are budgeted with unrestricted funds of the Institution. The fund raising and administrative costs of the Office of Membership and Development are considered an expense item against unrestricted funds. Contributions to the Smithsonian from corporations, foundations and individuals totalled more than \$12 million in FY 1987, up from \$11 million in FY 1986. These figures do not include the Contributing Membership Program.

The Smithsonian magazine has been one of the most successful public education ventures established by the Institution. Its general acceptance is a tribute to the role it has played in filling a need for style and elegance, as well as lucid reporting on cultural and scientific developments in today's world. The largest portion of the resources of



In the weeks and months preceding the opening of the Arthur M. Sackler Gallery - the Smithsonian's new museum of Asian and Near Eastern art - volunteers played important roles. Here, docents from the Freer Gallery, Jeanne O'Brian, Florence Jue and Jean Kane study a fourth-century drinking vessel in preparation for the new exhibits in the Sackler Gallery. (Photo by Kim Nielsen)

this group of activities is attributable to the operations of the Smithsonian magazine.

The unrestricted income and expenses (including the Office of Membership and Development) realized by the Associates Programs for FY 1987 and projected FY 1993 are summarized below:

	FY 1987		Projected FY 1993	
	<u>Full-Time</u>	<u>Funds</u>	<u>Full-time</u>	<u>Funds</u>
	<u>Permanent</u>	<u>(\$000s)</u>	<u>Permanent</u>	<u>\$000s)</u>
INCOME:				
Office of Membership and Development		—		—
Resident Associate Program		\$ 3,820		\$ 5,530
National Associate Program		16,259		29,525
Smithsonian Magazine		69,275		88,295
Air and Space Magazine		<u>5,360</u>		<u>13,605</u>
Total		\$94,714		\$136,955
EXPENSES:				
Office of Membership and Development	18	\$ 907	21	\$ 1,575
Resident Associate Program	50	3,870	55	5,435
National Associate Program	38	14,564	45	26,085
Smithsonian Magazine	94	53,290	97	73,105
Air and Space Magazine	<u>25</u>	<u>6,975</u>	<u>32</u>	<u>11,560</u>
Total	225	\$79,606	250	\$117,760
NET GAIN:		\$15,108		\$ 19,195

Future Year Prospectus

National Associate Program. The objectives of the Smithsonian National Associate Program (SNAP) will remain as they have been since 1970: to provide to Associates and the general public high quality, educational experiences in subjects relating to the Smithsonian and to encourage support for the Institution's work. The enthusiastic participation of its national constituency has enabled the Program to meet and advance its outreach goals and has made the Program's fundraising activities a significant source of revenue for the Institution's unrestricted funds.

Through its Lectures and Seminar Program, SNAP will continue to bring scientifically and culturally sound, yet popular, activities to cities and

towns throughout the United States. In cosponsorship with local scientific and cultural organizations, SNAP will visit twenty-three cities in FY 1988, providing learning opportunities for Associates and positive public relations for the Institution. Building upon past successes, the program will expand its series of residential seminar programs, which draw Associates from around the country to attractive locales for week-long, in-depth educational programs. The Lecture and Seminar Program also plans to develop a series of international programs, traveling to Japan, Australia, and Denmark.

The Associates Travel program looks toward a future of offering outstanding educational travel opportunities to Associates. SNAP will work closely with Air and Space magazine staff to provide study tours which meet the needs of its members. The Washington "Anytime" Weekend program is expected to remain a popular and inexpensive way for out-of-town Associates to sample the delights of the Institution.

SNAP's Contributing Membership program will begin FY 1988 with more than 45,000 members. Through new acquisition, maintenance, and upgrade strategies, this will increase to 77,000 members in FY 1993. Lessons learned from FY 1987's successful Castle Fund Campaign, which netted the Institution more than \$1 million toward construction of a visitor information center in the Castle's Great Hall, will be used in future restricted appeals for funding for pan-Institutional Projects.

SNAP eagerly awaits the new registration and membership software planned for FY 1988. This new automation support will increase marketing and operational efficiencies, and will enable SNAP to better serve its national membership.

Finally, SNAP plans to launch, in FY 1988, a new program benefit for Smithsonian National Associates: the opportunity to participate on selected Smithsonian research expeditions throughout the United States and around the world.

Resident Associate Program (RAP). In FY 1987, almost two thousand activities attracted more than 265,000 persons. During the planning period, RAP will continue its mission of conducting continuing education, cultural, and community outreach programs for its members and the general public residing in the Washington metropolitan area.

The performing arts segment will continue to present quality national and international performing artists, along with Smithsonian and respected area performers. RAP will continue to operate the Discovery Theater, Washington's theater for young people offering live dramatic, musical, and puppet performances. Building on the success of a seminar in FY 1987 for deans of continuing education from major universities across the country, RAP is organizing another seminar in FY 1988 and has begun to cooperate with the American University, to develop and market seminars in the liberal arts for senior corporate management.

Between now and 1992 RAP will present a wide variety of activities as part of the Columbus Quincentenary commemorations as well as collaborate



The Smithsonian Institution's Discovery Theater for children stages a variety of productions. Here, "Ancient Ghana," performed by the Afro-American Dance Ensemble, directly involves members of the young audience.

in celebratory efforts with the embassies of Canada, Sweden, and Australia. RAP will continue to offer a range of courses, lectures, seminars, films, and performances in other international areas presented by leading scholars and performers from abroad. For these activities RAP benefits from the assistance and cooperation of embassies, international organizations, and the Woodrow Wilson International Center for Scholars.

In FY 1987, RAP served a membership of more than 58,900 households, translating into approximately 136,400 individuals. The membership retention rate is beginning to recover from the effect of the changes in parking policies and is now seventy-eight percent. To generate new memberships, RAP is increasing direct mail efforts and advertising. To reach new audiences, RAP will continue to work with the Institution's Committee for a Wider Audience and other organizations to develop new programs such as the popular series of lecture designed for Washington working singles. RAP will maintain its vigorous commitment to the community through: the tuition-free Scholarship Program for inner city young people and adults to attend RAP courses; Discover Graphics, the free etching/lithography workshop series for area high school students and their teachers; Tuesday Mornings at the Smithsonian, the lecture/breakfast series for senior citizens; and the annual Kite Festival. Discover Graphics begins its first full year in FY 1988 in its new state of the art studio dedicated to the late Gene Davis.

Office of Membership and Development. In the face of increasing demand for private funds for Smithsonian programs, the Institution will increase its development staff during the planning period. Most of this increase will take place at the bureau level in order to encourage individual museums and offices to pursue support for their programs directly.

The central Office of Membership and Development will retain responsibility for pan-Institutional and multi-bureau projects, for research and record-keeping, and for assisting those bureaus without separate fundraising staff. The Office will continue to coordinate development activities across the Institution, in line with the new, more decentralized procedures. The Office will work with the Development Committee, which is charged with setting development priorities and addressing other related issues. Growth in the Office should occur in the research staff.

The Office has detailed several staff members to the National Museum of African Art to conduct a capital campaign for that bureau which is expected to last about four years.

Smithsonian Magazine. Although the magazine's management is justifiably cautious about the ebb and flow of fashion in publishing, it also expects that the demand for its product will remain strong, with an annual financial surplus estimated at about \$11,000,000 to \$12,000,000 over the next few years. It is primarily from these funds that the Board of Regents has been able to budget for the approved Regent's program for acquisitions, scholarly studies, educational outreach projects, and major exhibitions; to fund certain expenses previously met with federal appropriations; and to set aside sums each year for the enhancement of the

Institution's endowment. The magazine will continue to produce a high quality product, supported entirely by the trust revenues which it generates. New growth in subscribers is expected to average 25,000 a year from the present level of about 2,300,000. If required because of inflationary cost increases associated with production and mailing, subscription rates may increase in future years.

Air and Space Magazine. The magazine explores the realm of human endeavor in flight and in exploration, science, and research within the atmosphere and beyond. Membership benefits, similar to those of the National Associates, are offered. The magazine will be published six times a year. Operating losses are projected over the initial two or three years of publication, but these are expected to be recovered sometime in FY 1990-91, after which the magazine is expected to produce a net gain of \$1 million or \$2 million a year.

In Summary

With continued good performance by Associate Programs, income should increase from the current level of about \$95 million to \$137 million in FY 1993, with net income from these activities projected at approximately \$19 million in FY 1993. Detailed expense projections appear in Appendix I.

BUSINESS MANAGEMENT ACTIVITIES

This section covers plans, anticipated changes, and resource estimates for selected auxiliary activities conducted under the auspices of the Business Management Office. These revenue producing activities include the Museum Shops, Mail Order Division, Concessions, and Product Development and Licensing operations. The revenue producing activities of the Smithsonian magazine, Air and Space magazine, Smithsonian Press, and Traveling Exhibition Service are separate from the Business Management Office, and are presented in appropriate chapters and tables corresponding to the organization of the Institution and the FY 1989 budget submission.

The operations described in this section, like the Institution's Associate Programs, are an effort to offer the public a diverse range of services, to make the Smithsonian more accessible, and to enhance the educational experiences generated by exhibitions and other activities.

Current and Projected Resources

In FY 1987, these trust-funded operations had revenues totaling some \$46 million. As a group they generated approximately \$8 million in unrestricted net income for the Institution after cost of sales, payroll, and other operating expenses. By FY 1993, gross income from these activities is expected to increase to about \$71 million with a net gain of approximately \$10 million being made available for application to various activities and programs of the Institution.

	<u>Full-Time Employment</u>		<u>Unrestricted Funds</u>	
	<u>FY 1987</u>	<u>FY 1993</u>	<u>(\$000s)</u> <u>FY 1987</u>	<u>FY 1993</u>
INCOME:				
Business Management Ofc.			\$ 520	—
Museum Shops			22,060	\$35,200
Mail Order Division			20,805	30,935
Concessions			2,693	3,329
Product Development			—	1,125
Total			\$46,078	\$70,589
EXPENSES:				
Business Management Ofc.	8	3	\$ 730	\$ 380
Museum Shops	225	255	19,245	30,980
Mail Order Division	86	128	17,180	25,890
Concessions	1	1	998	2,064
Product Development	—	6	—	805
Total	320	393	\$38,153	\$60,119
NET GAIN			\$ 7,925	\$10,470

Business Management Office. In addition to the administration of the business activities listed below, this office is responsible for the product development and licensing program which makes reproductions and other products closely related to the Smithsonian collections available for purchase by individuals throughout the country, through licensing agreements with various manufacturers. Increased activity is projected.

Museum Shops. The Smithsonian has provided sales desks since the 1860s, but substantial sales results are a recent development. Centrally managed museum shops are located in the Museum of American History, the Museum of Natural History, the Arts and Industries Building, the Air and Space Museum, the Hirshhorn Museum and Sculpture Garden, the Museum of American Art, the Portrait Gallery, the Renwick Gallery, and the Museum of African Art in the Quadrangle.

Items offered for sale in the museum shops are selected to meet special requirements. Each item must relate to the collections, be appropriate to the museum where sold, and conform to high standards of quality and taste. Catalogues and other publications derived from exhibition themes and subjects, including works by Smithsonian scholars, are important to the museum shops. Other items include reproductions of artifacts, craft products, and educational products for children.

Mail Order Division. Formed in 1975, the Mail Order Division produces several catalogues each year. These catalogues are sent to Associates and offer special items selected to reflect Smithsonian collections and programs. High standards of quality, taste, and educational value are maintained. Over 300,000 catalogue orders are processed annually through the Division's receiving and shipping center in Springfield, Virginia.

Concessions. Through concession arrangements, the Institution provides visitors with restaurant facilities and recorded tour rental systems in the major Smithsonian museums. An old-fashioned ice cream parlor is also operated by a concessionaire in the Museum of American History. Other concessions include the popular carousel and popcorn wagons on the Mall during the spring and summer and the shop, restaurant, and parking facilities at the Zoo.

Future Year Prospects

Over the period from FY 1987 to FY 1993, the primary focus in the Business Management activities will be on improving the quality of goods and services offered to the public as well as the operational efficiency of the business activities. Expanded program activity will be associated primarily with the opening of the new museum shop facilities in the Quadrangle replacing the existing shop of the National Museum of African Art; the renovation and expansion of existing facilities in the National Museum of Natural History and the National Air and Space Museum; and increased efforts in product development and licensing. New food service contracts are being implemented. The addition of a new restaurant

facility at the National Air and Space Museum, using trust support, should be completed in FY 1988. Planned renovations to other existing food services facilities will increase revenues and improve service to both employees and museum visitors. As in the past, high standards for the quality and value of goods and services will be maintained. Detailed projections appear in Appendix I.

ADMINISTRATIVE, FINANCIAL, AND OTHER SUPPORT SERVICES

Organization units described in this chapter include central management functions provided by the offices of the Secretary, Under Secretary, Assistant Secretary for Administration, General Counsel, Treasurer, Congressional Liaison, and Director of Facilities Services. They also include the following specialized administrative and technical offices: Accounting and Financial Services, Financial Management and Planning, Audits and Investigations, Contracts, Equal Opportunity, Risk Management, Information Resource Management, Management Analysis, Personnel Administration, Printing and Photographic Services, Programming and Budget, Special Events, Procurement and Property Management and Travel Services.

The facilities services offices are included under this chapter: Design and Construction; Plant Services; Protection, with primary orientation to the physical plant and its contents and the health of staff and visitors; Environmental Management and Safety which provide a full range of fire, environmental and safety programs for the protection of facilities, collections and humans; and the staff services which provide architectural and historical research support on the Institution's buildings, along with collections management for the Castle Building and its collection of antique furnishings. To be consistent with budget presentations, resources associated with the Office of Horticulture, South Group Building Management, and Quadrangle Building Management are included in the tables of this chapter as part of physical plant services.

These central administrative, financial, technical and other support services provide overall planning, policy determination, direction, and leadership to the Institution; management of its resources; and evaluation of its work. These units furnish legal counsel; financial management; accounting; and other administrative, professional, and technical services required to support the Smithsonian's programs; to maintain, operate, and protect its physical plant in a safe condition; and to assure that the Institution complies with all appropriate laws and regulations and is fully accountable for its actions.

Current and Projected Resources

These organization units had FY 1987 resources totaling about \$86 million (including about \$19 million for utility, communications, and rental costs) and 1,758 full-time employees. Of this total, approximately \$70 million and 1,514 full-time employees are provided from appropriated funds and \$16 million and 244 employees are allocated within the Institution's nonappropriated trust fund budget. A breakdown of resources (before application of overhead recovery) follows for FY 1987 and projected FY 1993.

	FY 1987		FY 1993	
	FTE	Funds (\$000s)	FTE	Funds (\$000s)
Central Management Offices				
Federal S&E	33	\$ 1,710	39	\$ 2,092
Trust Funds	22	2,676	24	2,700
Specialized Administrative and Technical Offices				
Federal S&E	236	\$12,186	311	\$ 15,999
Trust Funds	198	10,585	198	13,998
Facilities Offices				
Federal S&E	1,245	\$56,308	1,436	71,395
Trust Funds	24	2,508	24	1,875
Total	1,758	\$85,973	2,032	\$108,059

Unrestricted trust funds are allotted to the management and support units to achieve an appropriate balance of federal appropriation and trust fund support in these units since they serve the entire Institution. These funds are used primarily for personnel who perform assignments similar to those of staff paid from appropriated funds. Several support units, however, administer unrestricted trust funds for more specialized purposes. The Office of Printing and Photographic Services receives income from the sale of photographic materials to the public. The computer center of the Office of Information Resource Management and the audiovisual unit of the Office of Plant Services operate on a cost recovery basis by charging users for the services provided.

Future Year Prospectus

Projections of additional federal increases over the period reflect high priority administrative and technical needs and amounts required to cover uncontrollable expenses such as necessary pay and inflation. The projections also contain requirements for increases to institutional rent, utilities and communications.

Major emphases of the central administrative and technical units will include the following activities. A new personnel/payroll management system using the services of the Department of Agriculture's National Finance Center will become operational over the planning period and will provide increased control and information accessibility. Improvements to personnel services and controls will be implemented through better tracking and follow-up on actions, development of processing standards, communications with bureaus and offices and safe-guarding of data and files. Steps will be taken to facilitate the hiring of professional and other staff, to assess job performance and to enhance benefits to attract and hold employees. Information on the Institution's equal opportunity and affirmative action program will be consolidated and issued for

CHART 12: Distribution of Funds Central Management Offices

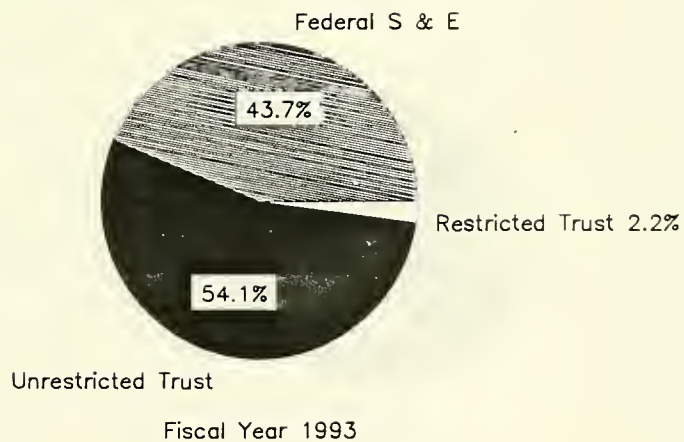
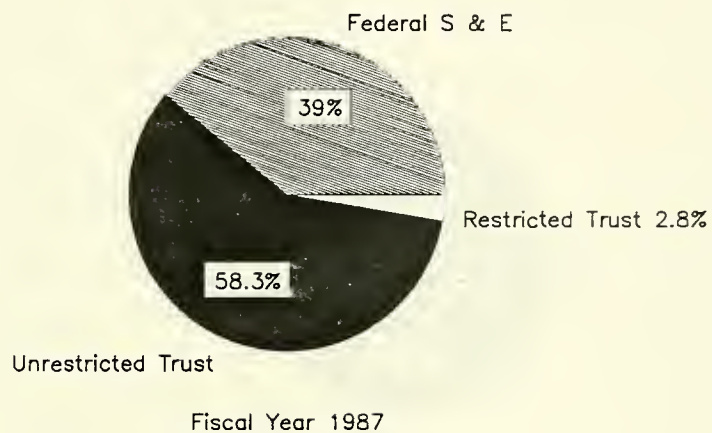
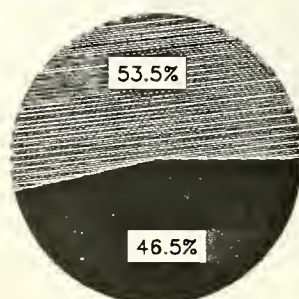


CHART 13: Distribution of Funds Specialized Administrative & Technical Offices

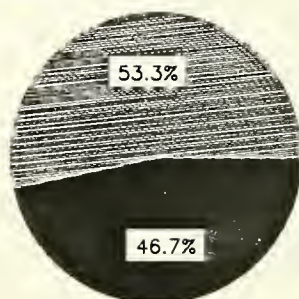
Federal S & E



Unrestricted Trust

Fiscal Year 1987

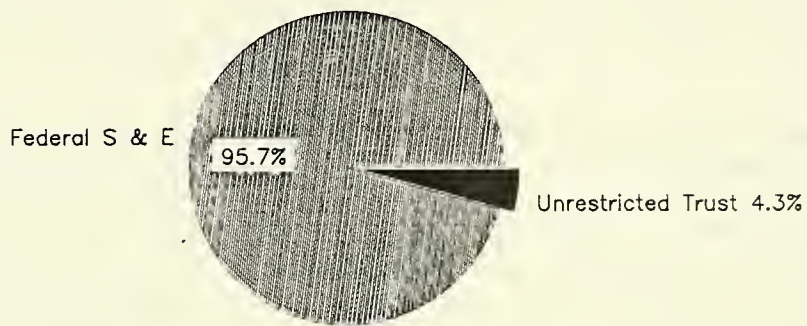
Federal S & E



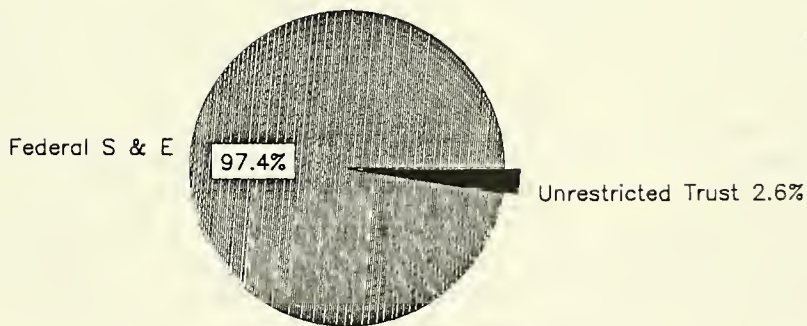
Unrestricted Trust

Fiscal Year 1993

CHART 14: Distribution of Funds Facilities Services



Fiscal Year 1987



Fiscal Year 1993

internal planning and guidance purposes. As a companion effort new accounting systems are under development in a well-coordinated effort involving the financial management and planning, accounting, procurement, budget and information resource management offices. Initial emphasis is on the general ledger and accounts payable systems which are expected to be implemented beginning in FY 1988. Automated collections information and research support systems are receiving priority attention. Steps to improve and reduce the costs of personal computer and word processor maintenance will be taken. Strengthening of the planning and budgeting functions will take place by increased attention to priority-setting, effective internal communications during the budget formulation and execution processes and thorough reviews of current and proposed activities. Continued attention will be given through the work of audits and investigations, management analysis and legal counsel to the assessment of operations and to the correction of financial and management problems which may be determined to exist. Such activity will be overseen by the Board of Regents and its Audit and Review Committee.

In the facilities area, major management activities include the mechanical and security operations of the Quadrangle which opened to the public in September 1987, the completion of construction of the Air and Space Museum terrace restaurant to be built with trust funds during the period of 1987-1988 and the acquisition and caretaker occupancy of the General Post Office Building upon its transfer from the General Services Administration. Organizational and budget priority are being given to strengthen the Institution's programs in the identification, handling and disposal of hazardous materials and in a wide-range of activities related to fire protection and environmental management for the safety of employees and visitors. The Institution's proprietary alarm system in its buildings became fully operational in FY 1988 and when coupled with the ongoing program of upgrading alarm and other security equipment and devices will result in substantially increased physical security for buildings and their contents. Over the planning period, shortages in security personnel will be corrected as budget resources permit. Special attention will be given to building condition surveys, the identification of space and facilities requirements and long-range facilities planning for the elimination of the backlog of deferred essential maintenance and repair of buildings and development of buildings to meet programmatic needs. Data processing will be widely applied in a coordinated fashion to the facilities offices to improve project management, reduce paper flow, cope with higher workloads and produce more effective communications among the support offices and with users.

In Summary

Operating budget resources required to meet these priority objectives and to sustain adequate levels of operational support by the organizations in the administrative, financial, and other support category may approach \$108 million in FY 1993 from the FY 1987 level of \$86 million. Further details and financial projections for the centralized, specialized and technical, and facilities offices appear in Appendix I.

FACILITIES PLANNING, CONSTRUCTION, RESTORATION AND RENOVATION

The Smithsonian's responsibility for its museum buildings and other facilities requires a continuing program of repairs and maintenance (some of which is accomplished by staff with funds provided in operating budgets), renovations and restorations, and new construction. The objectives of this program are to provide appropriate, safe, and accessible facilities for research, education, and care of collections. Federal appropriations are the primary source of funds for this work, but, starting with the funding of the original Smithsonian Institution Building, other sources of funds have at various times become available for particular projects. Maintenance and preservation of facilities to assure their long term operation is one of the Institution's highest priorities and reflects the Institution's great concern for the condition of its buildings, many of which date back to the turn of the century or earlier. Many millions of dollars are required each year for this effort, as well as to assure compliance with safety codes.

Considerable progress has been made in determining the extent to which additional facility support is required. Although a number of critical facilities related projects have been recently completed or are currently underway, including roof replacement and facade restoration, fire detection and suppression improvements, and repair or replacement of utility systems and equipment, the current levels of funding fall far short of the requirement, which is in excess of \$200 million, to address the identified backlog of repair and restoration work on facilities and the replacement of major building systems. To remedy this situation, the Institution is requesting an increase in the Restoration and Renovation of Buildings program to \$40 million to \$60 million annually beginning in FY 1989 in order to continue the program of ongoing repairs and restoration of the buildings, to begin major cyclical replacements of building systems and equipment at the end of life expectancy in several buildings, and to conduct internal space modifications necessary for program support.

In addition to maintaining existing facilities, the Smithsonian also has a responsibility to provide the best possible physical environment for operation of its many and diverse research, education exhibition and collection preservation programs. A recent rough estimate of currently identified facilities expansion requirements throughout the Smithsonian totals in excess of \$700 million. Although the process of planning and prioritizing these needs is continual and long range projects are not targeted for funding in specific outyears, these requirements are discussed in the Construction section of this chapter.

Redevelopment of the Zoological Park began in FY 1974 with about \$50 million of work completed through FY 1988. A minimum of \$64 million will be required to complete work under the current master plan for Rock Creek and approximately \$12 million will be needed for planned development at the Conservation and Research Center at Front Royal. It is anticipated that increased funding levels will be required to meet ongoing repair requirements at both facilities.

Additional details on these several programs are described in the following sections.

Restoration and Renovation

The Restoration and Renovation of Buildings (R & R) account is used to fund building repairs, alterations and improvements to Smithsonian facilities. Substantial annual funding is required to assure preservation and effective operation of the Institution's buildings, to provide a safe and secure environment for visitors, staff and collections; and to make space alterations and modifications to meet program objectives.

The Institution's buildings and facilities (other than the Zoo) consist of 14 museums and galleries (including the Quadrangle which opened in late September 1987) in Washington, D.C. and New York City housing research and collections management activities and a wide range of exhibitions in the fields of science, history, technology and art. Also included are facilities at Suitland, Maryland, for the preservation and storage of collections; centers for biological research, conservation and education in Panama and on the Chesapeake Bay; and a center for astrophysics in Cambridge, Massachusetts and the Whipple Observatory on Mt. Hopkins near Tucson, Arizona.

In recent years it has grown increasingly evident that funding levels for maintenance, repair and preservation of the buildings have not kept pace with the need. Currently, there exists an identified backlog in excess of \$200 million of repair and restoration projects essential to keep the Smithsonian's buildings in good operational condition and to meet all safety and environmental codes. The emphasis throughout the planning period will be on implementing a planned program to identify more fully the present and future requirements of the Institution's buildings and to eliminate this backlog over time. A number of major problems need to be addressed, including installation of fire detection and suppression systems required throughout Smithsonian buildings to meet current fire codes, removal or containment of dangerous substances, such as asbestos, which are present in many buildings, replacement of deteriorated plaza walking surfaces at two museums, and major replacement of HVAC and electrical systems at several museums.

The FY 1989 request for R & R reflects the Smithsonian's commitment to correct and improve the condition of its physical plant. In addition to increases in funding levels in the current request for R & R for ongoing Repairs, Restoration and Code Compliance of facilities, a second sub-account within the R & R account is proposed, called Major Capital Renewal, to deal with the cyclical replacement of major building systems and equipment and major renovation projects. More than half of the presently identified backlog consists of these major replacement requirements, which include the replacement of heating, ventilating and air conditioning (HVAC) and electrical systems at the Natural History, American History, Arts & Industries, and American Art and Portrait Gallery buildings. The magnitude of work involved, the concomitant planning requirements and the expense of these project are unique from regular and preventive maintenance projects or repairs undertaken when a piece of equipment fails, and thus merits a separate category within the R & R

account. A third sub-account is being established within the R & R account, entitled Alterations and Modifications, to fund projects which are required as the result of programmatic changes and objectives. Building modification funding for providing appropriate space to sustain the ongoing programs of the Institution is a vital need.

Repairs, Restoration and Code Compliance. Funds requested in this sub-account are for routine repair and maintenance projects to eliminate the backlog of essential maintenance and repairs.

Amounts are requested for general repairs; facade, roof and terrace repairs; access, safety and security improvements; fire protection and suppression projects; utility repairs and improvements; and advanced planning and inspection for such projects. In the FY 1989 request to the Office of Management and Budget, a total of \$25.2 million is being sought in this category, with comparable amounts to be requested in the following years.

Major Capital Renewal. In the life of every building a point in time is reached when replacement of building systems or components is necessary. Despite the best of care, HVAC systems, for example, reach an age when no reasonable amount of repair can keep the machinery running. Electrical and plumbing systems must be overhauled periodically to replace deteriorated equipment, wires and pipes. A number of the Institution's historic buildings have already reached or are approaching the age where cyclical renewal of building components and systems is required. Without extraordinary attention to the specific needs of older buildings now, their operational integrity is threatened, with a very real risk that equipment and systems failure may in the future require the closing of significant portions of buildings dedicated to exhibitions, collections storage and research activities. The Institution is requesting \$7.7 million in FY 1989 to begin this renewal program, and expects to seek funding levels of up to \$15 million in future years. The initial components of this new program are described below. Further analysis of the condition of the Smithsonian's older buildings is expected to add to the list. With the exception of the project at the American History building, which is already underway with funding previously provided under the R & R program, the Institution intends to submit the Major Capital Renewal projects for review by the appropriate committees of the Congress, according to the wishes of the Appropriation Subcommittees expressed in the FY 1987 budget report.

In 1982, a study of the HVAC system of the American History building recommended replacement of the deteriorated heating, ventilating, air conditioning and refrigeration equipment and controls in the now 24 year old building to assure provision of required environmental conditions in an energy efficient manner. In 1986 an implementation plan for replacement of the HVAC and related modifications to the building envelope was completed. This plan incorporates anticipated fire protection and asbestos removal work in such a way that vertical segments of the building can be isolated and work required in each segment accomplished at the same time. This scheduling will result in less disruption to the Museum's activities and will save money as well by allowing award of a single major contract for the entire project. The Museum will synchronize its



Viewed through scaffolding, an illusionist mural designed by artist Richard Haas nears completion underground in the Quadrangle building. The mural, providing a dramatic end to the building's monumental concourse, depicts the Castle (upper left) and the Arts and Industries Building through ancient stone arches. (Photo by Jeff Tinsley)

exhibition reinstallation and other activities with the plan to take maximum advantage of the "down time" in each area of the building. It is estimated that \$5.6 million will be required from FY 1989 through FY 1991 to complete this project.

Over the past several years a number of separate studies were undertaken that addressed energy conservation, fire protection and suppression, communications, security upgrading, asbestos abatement, and other remedies to building deficiencies, especially in the HVAC and electrical systems of the Natural History Building. Once the magnitude of the work required was realized, a plan was developed for the work to proceed over a 14 year period to limit major disruption to museum activities. The principal component of this project is the replacement of the HVAC and major electrical equipment. The majority of the HVAC equipment has been in operation in excess of 20 years; it has deteriorated to such a degree that it must be replaced immediately to avoid massive system failure. The automatic temperature control system is obsolete and does not operate satisfactorily. In addition, 90 percent of the electrical lighting and power panels are at or near the end of their useful life. The main high-voltage switchgear equipment serving the transformers for the Natural History as well as the Freer Gallery, Arts and Industries and Smithsonian Institution Buildings, is approximately 40 years old. These and related electrical equipment components are difficult to repair due to unavailability of spare parts and must be replaced.

The Arts and Industries Building is one of the finest examples of Victorian architecture in the nation. Originally designed to house representative artifacts of the Philadelphia Centennial Exposition, the construction of the building was completed in 1881. The underground utility trenches located within the building are as old as the building itself. Inspection, maintenance and alterations of the building utility systems has been disruptive, difficult and costly because the tunnels are small, with minimum access, and much of the piping and electrical circuits within them cannot be serviced or reached at all. Some pipes within the tunnels are covered with asbestos insulation. The utility tunnels must be renovated before the HVAC, electrical and other utility systems, now reaching the end of their useful life, can be replaced. It is currently estimated that the cost of renovation of the utility tunnels will be approximately \$9 million, and the project will be phased over several years.

The HVAC system in the American Art and Portrait Gallery Building is now approximately 24 years old, in poor condition, and needs to be replaced in order to assure continued operation of the system. At the same time, improvements will be made to the building to create environmental conditions necessary to preserve the collections housed in the building. Particular problems that exist now include lack of close control of humidity and inability to provide the simultaneous heating and cooling required during the transitional seasons to maintain appropriate temperatures. In addition, the phased project will include replacement of all windows with double-glazed windows and waterproofing and water detection systems at a total cost of over \$6 million.

Alterations and Modifications. Development of the Smithsonian's outlying facilities and other projects are required to meet programmatic objectives in the areas of research, collections management, exhibitions and administration. For FY 1989 approximately \$5.2 million is requested for such projects as: construction of mezzanines in exhibit areas, and renovation of the conservation laboratory in the American History Building; office space modification and exhibit demolition at the Natural History Building; space modifications in the Arts and Industries Building; office and other modifications at the Air and Space Building; construction of additional storage space at the Paul E. Garber Facility in Suitland, Maryland; construction of a storage building at the Environmental Research Center at Edgewater, Maryland; demolition work and construction or renovation of docking facilities at several sites of the Tropical Research Institute in Panama; installation of a communications network at the new Base Camp and construction of a storage building for snow removal equipment at the Whipple Observatory in Arizona; construction of an employee's child care center on the Mall; renovation of a building at the Zoological Park's Conservation Research Center in Front Royal for use by the Smithsonian Archives; expansion and improvements to negative storage and other space used by the Office of Printing and Photographic Services; and space renovations and installation of compact shelving for the Smithsonian Institution Libraries.

Administrative Costs. For the first time, the Institution is requesting that the cost of additional staff required to support the expanded R & R program be funded from the program itself. In FY 1979 the Restoration and Renovation of Buildings account for the Smithsonian totaled \$2.1 million. This account has grown to almost \$15 million in the FY 1988 request. The FY 1989 request represents a major increment of growth — to over \$38 million in funding required for Repairs, Restoration and Code Compliance, Major Capital Renewal, and Alterations and Modifications — and this funding level is projected to be sustained or increased well beyond the planning period. Additional staff must be obtained in the offices with major responsibilities associated with management of the R & R program if the Institution is to realize the benefits and achieve its objectives. Staff increases are being requested for the Office of Design and Construction which bears the primary responsibility for management of the program), the Office of Procurement and Property Management (which is involved in contracting for design, engineering and construction services), the Office of Environmental Management and Safety (which reviews all drawings and specifications for construction or modification projects and monitors construction activities to assure compliance with fire and other life safety codes), the Office of Audits and Investigations (which must provide pre-award review of all contracts over \$100,000), the Office of Accounting and Financial Services (which processes and monitors all requisitions for design and construction services), and the Office of Personnel Administration (provides support services to the program). A total of 38 permanent positions is proposed for FY 1989, at a cost of about \$2 million. This represents an overhead rate of only 8.5 percent of the increase in the R & R program requested for FY 1989. Considering the large number of individual projects in the Smithsonian's R & R program, and the complexity of construction in museum buildings where environmental conditions must be maintained and work scheduled around ongoing public

activities, this rate compares favorably with overhead costs incurred by other government organizations involved in construction.

Construction

A number of construction projects are currently underway, or will begin shortly with funds anticipated in FY 1988. The new Quadrangle Building opened to the public in late September of 1987, and construction will begin in early 1988 on the tunnel connection to the Freer Gallery. A laboratory and conference center is under construction at the Tropical Research Institute in Panama. A new restaurant is being built on the East Terrace of the Air and Space Building, funded entirely from trust funds. Ground will be broken in the fall of 1987 for construction of a new Smithsonian Information Center in the Smithsonian Institution (Castle) Building, funded by gifts from the Pew Memorial Trust, the Kresge Foundation, the Morris and Gwendolyn Cafritz Foundation and other contributions. With appropriated funds anticipated in FY 1988, a new Base Camp for the Whipple Observatory in Arizona will be designed and constructed. These and projected future projects reflect the Institution's commitment to improvement of facilities supporting research, exhibitions, collections management, administration and services to the public.

New construction and expansion and improvement of facilities, will continue to be required to accommodate the Smithsonian's growing programs, and to replace inadequate or leased buildings. In the next several years the Institution will complete a comprehensive survey of facility requirements to project long range construction needs well into the next century. Current estimates of the total requirements for funding the construction program total over \$700 million. Elements of this program are discussed in the following pages.

Tropical Research Institute (STRI)

The Smithsonian's current research objectives include a coordinated effort to improve science facilities commensurate with the Institution's longer range scientific goals. The Smithsonian Tropical Research Institute (STRI), located in the Republic of Panama, is the nation's principal center for tropical biology. Each year hundreds of U.S. and international researchers join the permanent STRI staff in undertaking fundamental studies on the tropics. To capitalize on STRI's unparalleled data base of environmental changes covering more than 60 years, it is necessary to undertake a number of facilities improvements. A plan was completed in March 1986 to assist in guiding this program, and Public Law 99-423 authorized construction for development of improved research facilities at STRI. Existing STRI facilities include buildings constructed in the 1920s and 1930s and renovated structures obtained from the U. S. military and other agencies. With the exception of the library building (opened in 1984) and the laboratory and conference center now under construction at the STRI headquarters in Tivoli (funded with \$2.8 million in appropriated funds and a \$4 million gift from the Tupper Foundation) current STRI facilities are inadequate because of age, size, safety, and health standards.



Model of the proposed Earl S. Tupper Research and Conference Center being built at the Smithsonian Tropical Research Institute.

Barro Colorado Island, located in the middle of Gatun Lake, a key component of the Panama Canal, has served as an important research center for tropical biology since 1923. Under the Canal treaties, STRI was assigned custodianship of the 12,000 acre Barro Colorado Nature Monument on behalf of the U.S. and the Republic of Panama. The island, at the center of the reserve, provides hundreds of investigators annually with research facilities as well as living and dining accommodations. Its physical plant includes outdated wooden buildings which do not meet modern day building and health codes. An amount of \$2.9 million is being requested in FY 1989 for design and construction of new laboratory facilities at Barro Colorado Island. In addition, a new laboratory, dormitory, and sewage system located at Galeta or a more appropriate Atlantic site is a necessity.

STRI is responsible for more than 60 vehicles, a major research vessel, and dozens of small boats, in addition to normal building maintenance. At present the maintenance needs of its geographically dispersed facilities are performed in the bottom of an old torpedo factory; the top floor houses research offices. In order to provide for adequate maintenance, a new central facility with modern equipment is required. Design and construction of a new workshop and maintenance facility is planned for future years, as are construction of laboratory and support facilities at the San Blas and Gamboa sites. In addition, a number of minor improvements will be made to STRI facilities using the R & R program, such as renovation of an apartment building at the Gamboa site for use as a dormitory, and construction of needed housing facilities at Naos.

General Post Office Building

Since 1958, when the Institution acquired the Patent Office building, it has been interested in obtaining the historic General Post Office building, which is immediately across F Street. Both buildings are the work of America's first native-born professional architect, Robert Mills of South Carolina (designer of the Washington Monument and the Treasury building). The General Post Office (the fifth oldest Federal building in Washington, D.C. and a landmark building in its own right) is proposed to be used for expanded collection, research and public activities of the National Museum of American Art, the National Portrait Gallery, and the Archives of American Art now housed in the Patent Office building. These two structures, connected by a tunnel under F Street, are expected to meet the needs of the three bureaus well into the next century.

Legislation has been enacted authorizing the transfer of the building to the Smithsonian without reimbursement., contingent on GSA securing suitable quality space for the relocation of the current occupant, the U.S. International Trade Commission. This relocation is now scheduled for early 1988. Preserving this historic landmark and converting it to public purposes will require a comprehensive program that must meet the special requirements of museums for fire protection, climate control, and safety and accommodation of visitors. An amount of \$3 million is being requested in FY 1989 for design of the necessary renovations; the Institution is



Exterior view of the General Post Office Building at 7th and G Streets, N.W. (Photo by Jeff Ploskonka)

also seeking resources to operate the building in a caretaker status, without programmatic occupation until construction commences.

Air and Space Museum (NASM) Storage and Exhibit Facility

Because of the size of air and space craft, it is not feasible to provide collection storage space in the Mall building. Therefore, the Air and Space Museum has used temporary metal storage buildings at a 21 acre site at Suitland, Maryland acquired by the Institution for this purpose in the mid 1950s. Periodically since acquiring this facility, additional metal buildings have been constructed; however, both they and the site are filled to near capacity. Also, over the years, the Suitland area has been developed intensely, making transportation of large modern aircraft to the Air and Space facility, now known as the Paul E. Garber Facility, extremely difficult. Under consideration are potential locations at or near airports in the Washington region that could accommodate storage and exhibition structures to permit relocation of aircraft from the Garber Facility and receive by air transportation new objects such as the recently acquired space shuttle Enterprise and a promised Concorde. Preliminary and informal discussions are ongoing with several interested parties.

Natural History Building (NMNH) - West Court

The Institution has recognized a need to expand food service and other facilities for the public at the Museum of Natural History. Attention has focused on the feasibility of expanding the West Court structure to increase the space available for food service, museum shop and educational activities of the Museum. It is proposed that the present roof over the West Court be raised to the maximum height consistent with the roof line of the building and two new floors added. With rearrangement and renovation of the present space, a total of five floors would be available for public access. A study is currently underway to begin planning the use of this space and to develop cost estimates and schedules for construction. It is anticipated that the expansion would be funded from trust funds.

Administrative Service Center

The concept of an in-town Smithsonian Service Center was developed in 1975 when a number of Institution support activities located at various leased buildings in Washington were consolidated in a single leased location at 1111 North Capital Street to provide efficient support to museums and other bureaus located principally on the Mall. The current lease of the North Capital Street building expires in the fall of 1992. During the term of the lease, the building was sold to a development firm. The current owners' options include redevelopment of the property to a more remunerative use. The Institution must consider alternative space to house the support operations now at 1111 North Capital Street and other support activities now on the Mall which are expected to outgrow their present space or whose space is required for museum programs. In keeping with general objectives to reduce resources spent on leased facilities, the Smithsonian needs to acquire a building with

easy access to the Mall. Presently, it is estimated that a Service Center of 250,000 gross square feet will be required.

Museum of American History (NMAH) and Other Collections Storage

Because storage space has long been exhausted at the Mall Museum and in its temporary buildings at Suitland, the Museum of American History has documented both its immediate and long-term needs in the context of the Smithsonian's master planning effort. A museum space planning consultant was retained for the study, which was carried out during 1986, in coordination with the Institution's Office of Design and Construction.

Apart from the space needed for modest growth and to relieve currently compressed and unsafe conditions, the Museum will need new space to substitute for the roughly 115,000 square feet in the temporary buildings at Suitland: these structures have been analyzed in the Smithsonian's site survey as having a life expectancy of no longer than 10 to 15 more years. Since half the NMAH collections, exclusive of stamps and coins, reside there it is essential to have facilities ready in the next decade or so to assure that the national collections have proper housing.

The Suitland location seems ideal for fulfilling this and many of the Institution's other consolidation and collection management objectives. The building that opened in 1983 at Suitland permits the Institution to meet many collections storage needs primarily in the natural history area, and to strengthen training and other conservation programs. A subsequent phase of development at Suitland would alleviate emerging collection storage pressures in the other bureaus. In the coming years, as currently envisioned, the next development steps for the Suitland properties include an additional pod for the current building, a storage and laboratory space for the Museum of American History, the art functions, and a central facility for the libraries.

Cooper-Hewitt Museum

The Museum has experienced substantial growth in the size of its collections and in the number of visitors. Renovation of the Miller townhouse, and the creation of new space, will be required to assure adequate storage and exhibition of collections and support educational activities of the Museum.

Anacostia Museum

The Museum's administrative staff and exhibition functions were recently moved to the annex adjacent to the current building at Fort Stanton Park. The lease on the Carver Theater has been terminated. The Museum plans to explore in the future the possibility of development of new museum accommodations at Poplar Point to provide expanded operations at a more accessible location.

Administrative Office Building

The Institution is currently reassessing its use of all Mall and leased space, including the effects on this space resulting from occupancy

of the Museum Support Center and the Quadrangle. In expectation that only minimal reliance should be placed over the long run on leased space, the Institution will consider purchase or construction of office space near the Mall in order to reduce the longer-term budget effects of continued rental escalation. The cost of leasing administrative space at L'Enfant Plaza has risen from about \$8.50 per square foot. in 1972, to an estimated \$25 or more in FY 1989.

Hirshhorn Museum and Sculpture Garden

In response to a number of space issues at the Museum, a space plan was completed in FY 1987. The collections storage conditions are particularly acute, with the absorption of the Hirshhorn bequest and active acquisition program. The Museum also has identified needs for additional space for exhibitions and public services. The plan suggests a possible solution to the space problem through expansion of the Museum at its present site.

Museum of American Indian

The Smithsonian is currently exploring the possibility of construction of a new facilities to house the Museum of the American Indian on the remaining site on the Mall. This property, bounded by Third Street, Maryland Avenue, Fourth Street and Jefferson Drive, has been reserved by Congress for the future public use of the Smithsonian (P.L. 94-74, approved August 8, 1975). Congressional funding has been made available for a feasibility study of various Washington, D.C. and New York City options for relocating the Museum.

National Postal Museum

The U.S. Postal Service (USPS) plans to renovate, at its own expense, the City Post Office Building near Union Station. Current plans incorporate a National Postal Museum operated jointly by the Smithsonian and the USPS. This museum would provide expanded storage, research and exhibition space for the extensive collection of stamps and postal history artifacts now located in the Museum of American History. The Museum project has received the preliminary approval of the Board of Regents, depending on the development of an appropriate operating agreement between SI and USPS, and the willingness of the USPS to provide necessary operating costs. The USPS renovation plans for the City Post Office Building are under continuing review by the National Capital Planning Commission.

Construction Planning

An essential part of effective facilities development is the ability to identify, assess and prioritize major requirements, and to make long range plans in sufficient detail so that an accurate project description can be developed, estimates made of costs of construction and operation, and issues affecting the project identified and addressed before management decisions are made or approval is sought from Congressional

committees and review commissions. The Institution does not presently have that capability.

The amount of \$1.3 million is being sought. in FY 1989 for construction planning and \$1 to \$2 million is required annually to support feasibility studies, planning and conceptual designs on which to base more precise descriptions and cost estimates for construction, establish operating and logistical support requirements, and make required environmental impact assessments for the highest priority construction projects selected for consideration by Smithsonian management.

Zoological Park and Conservation Research Center

This account is used at the National Zoological Park for repairs, alterations and improvements to the plant property, and for the construction of additions and minor new facilities including exhibits; to prepare plans and specifications for construction; and to perform renovations, restorations and new construction for implementing the Master Plan approved by the Commission of Fine Arts and the National Capital Planning Commission in FY 1973. The Zoo's facilities include 163 acres in the Rock Creek Valley of Washington, D.C., and a 3,150 acre Conservation and Research Center located in Front Royal, Virginia.

The Zoo has developed a five-year construction and improvement schedule for both the Rock Creek facility and the Conservation Center at Front Royal. The following paragraphs outline the projects anticipated over the planning period.

Zoological Park Redevelopment

Olmsted Walk - Restoration and construction of the Olmsted Walk was started in FY 1985 with emphasis given to preserving and enhancing the natural and historical character of the Park. Some exhibits along the Walk will be renovated to enhance the visitors' experience in viewing the animals. New surfacing materials for the Walk, adequate drainage, new landscaping, additional benches and drinking fountains, and improved graphics are included. These efforts will assist in unifying the exhibits and grounds and in providing a pleasant and educational experience for the public at the National Zoo.

The first phase concentrated on the section of Olmsted Walk from the Rock Creek entry up to the Great Ape Facility. This phase established an identifiable pedestrian entrance at the Rock Creek side of the Zoo, providing visitors a proper orientation point at the beginning of their visits. The main walkway was modified to loop around in front of the reptile and monkey houses by constructing a winding walkway more in line with the spirit of the original Olmsted design. This section of the Olmsted Walk reopened to the public in April 1986. A new Gibbon Facility is being constructed and is scheduled to open in May 1988.

The second phase renovated the opposite end of the Olmsted Walk beginning on Connecticut Avenue. At the entrance to the education building, a plaza was created which provided for an information kiosk. Walk ways adjacent to the existing sable antelope, bongo, and dorcas gazelle

exhibits were modified to provide access to the plaza. This phase was completed in the spring of 1987.

The third phase will modify the Walk from just past the education building to the Great Ape Facility. The Walk in this area will be renovated to provide the visitor with a better view of the surrounding exhibits. A third entry point to the Walk will be constructed in this phase. Approximately \$2.6 million is included in the FY 1988 budget request to complete the construction phase. Funds will be required in future years to complete the landscaping along the Olmsted Walk.

Aquatic Exhibits - Unlike the aquarium in Baltimore, the proposed aquatic habitat facility will include not only fishes but the full range of aquatic animals such as aquatic mammals, birds, reptiles and amphibians. Another essential difference is that the NZP will concentrate on freshwater animals while Baltimore concentrates on animals found in the marine ecosystem. Hence, the two facilities will be complementary rather than duplicative. Together with the invertebrate exhibit which opened in May 1987, the proposed aquatic habitat facility fills the last gap in the Zoo's presentation to the public of representatives of all the major animal groups. To date emphasis has been placed almost exclusively on terrestrial animals in our natural world despite the fact that over sixty percent of the world's vertebrate animals are fishes. The animals proposed for exhibition will include those not heretofore exhibited in most zoos. The world of aquatic animals is little known to the public; hence the proposed exhibit provides an excellent opportunity to educate and entertain the general public on these engaging and important groups of animals.

The first phase (estimated at \$7.7 million) is the Amazonia Exhibit scheduled for construction with funding requested in FY 1989. This exhibit will incorporate a tropical forest and stream displaying aquatic mammals with appropriate fish, invertebrates, birds and amphibians, as well as vegetation. An additional amount of \$15.1 million is estimated to complete the design and construction of all phases; prospects for raising private funds in lieu of appropriations are under review.

Parking Facility - For over a decade the Institution has presented a long-range plan for a centralized parking facility at Rock Creek. Such a facility would allow the return of several surface parking areas to animal exhibition spaces and also increase green space around the central exhibition area of the Park. The areas that would be freed of present use as car parks are the only flat areas remaining at the Park for exhibit use. If funds permit, the proposed parking garage would include approximately 1,100 spaces compared to the existing 250 spaces on the site contiguous to the present General Services Building. A pedestrian walk and tunnel would be constructed to allow visitors unimpeded access to the central Zoo animal area. At present this project is tentatively scheduled for construction in 1992.

Grasslands and Forests Exhibits - These new exhibits are proposed for development during the coming decade. The exhibits are eco-geographic in their character and for planning purposes are broken into three distinct

zones: American Grasslands, African Grasslands, and Forests. This exhibit is scheduled for construction in late 1992 and 1993.

The American Grasslands exhibit will be located in what is now Visiting Parking Lot B. The exhibit will be subdivided into the major habitats, the North American Prairies and the South American Grassland. The two exhibits will be separated by a planted berm which will conceal the service yard and holding buildings from the two exhibits. Species planned for the Prairie exhibit include bison, coyote, sandhill crane, prairie dog and gopher snake. Species scheduled for the Grassland exhibit include mara, giant anteater, capybara, maned wolf, rhea and guanaco.

The African Grassland exhibit will also be subdivided into two major habitats, the African Savannah Grassland and the African Desert Grassland. The exhibits will be located where the Hardy Hoofed Stock exhibits and bus staging area now exist. The trails in the two subdivisions will include screening and specimen plantings to create the illusion of being in Africa. Animal species such as zebra, ostrich, wildebeest, flamingo, spotted hyena, blesbok, gerenuk and dwarf mongoose. A nocturnal exhibit will include species such as gorilla, aardvark, fennec fox, cobra, and insects. Species planned for the desert exhibit include gazelle, crowned crane, meerkat, duiker, and klipspringer.

The Forest exhibit will be located on the hilly terrain east of the Connecticut Avenue entrance to the Zoo. The exhibit will be subdivided into three major habitats: West African Forest, Southeast Asia Forest, and the Sulawesi Forest. Species planned for the exhibits include mandrill, leopard, bongo, Eld's deer, tapir, muntjac, anoa and babirusa.

Renovation and Repairs - In addition to the redevelopment Master Plan, the Zoological Park is responsible for a continuing program of major maintenance and repair of its real property (buildings, grounds, utilities, and equipment). The Zoo has sixty separate structures of which eighteen are major buildings. The current plant value is over \$100 million and \$1.6 million to \$2 million will be required annually for structural, mechanical, and electrical repairs and renovation of the physical plant to support the Zoo's mission at a satisfactory level.

Conservation and Research Center

Pachyderm Facility - This project will provide a facility to house large hoofed stock for research and breeding. The site chosen is well suited for this purpose and will not be labor intensive with respect to support requirements. The facility will permit the Zoo to pursue actively the breeding programs for such critically endangered groups as rhinoceroses and tapirs.

Water System and Hydrants - Worn and deteriorated water lines throughout the facility must be replaced and hydrants upgraded to meet fire and safety protection standards. This project is scheduled for renovation in FY 1992.

Maintenance Facility - The maintenance trade shops that serve the Conservation and Research Center will be consolidated into one area for

improved operations, security and accessibility. A group of supply buildings will be renovated and modified to serve this function, providing a separate service entrance and parking for the Center's motor pool operations and off-site employees. An amount of \$50,000 was provided for the design in the FY 1985 appropriation and \$1 million is needed for construction. The space vacated by the present shops will be used to house student research activities.

Multi-Purpose Animal Facility - This proposed new facility will provide needed additional space to support research and breeding programs for small to medium-sized endangered species of mammals. This facility will utilize the same passive solar heat/natural light that has proved so successful in the small animal facility for conservation and improved animal health. The facility, scheduled for construction in 1991, will be located in the central area of the Center.

Wildlife Training Center - This project will renovate the existing conference building at the Center to provide a training facility with classrooms, laboratories, computer facilities, dining room and quarters for 20 students. Additionally, it will provide offices and lodging for two instructors, a library, and evening study area. Renovation of this facility is scheduled to begin in FY 1992.

APPENDIX I

APPLICATION OF SMITHSONIAN OPERATING
RESOURCES, BY ORGANIZATION, FOR FISCAL YEAR 1987 AND
PROJECTED THROUGH 1993

Assistant Secretary for Research

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	25	1029	25	1053	25	1053	25	1053	25	1053	25	1053	25	1053
UNRESTRICTED & SPECIAL PURPOSE FUNDS	1	97	1	152	1	262	1	267	1	274	1	274	1	275
RESTRICTED FUNDS	16	772	7	394	3	441	0	390	0	386	0	387	0	386
GOVERNMENT GRANTS & CONTRACTS	0	699	0	698	0	223	0	233	0	245	0	256	0	269
SUBTOTAL - ALL FUNDS	42	2597	33	2297	29	1979	26	1943	26	1958	26	1970	26	1983

Administration of research programs rests with this Office; guidance, planning, and overall policy direction for scientific, artistic, and humanistic research efforts and research related to education and exhibition activities are provided through the Assistant Secretary.

Joseph Henry Papers

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	5	204	5	210	5	210	7	268	7	263	7	264	7	265
UNRESTRICTED & SPECIAL PURPOSE FUNDS	0	0	0	1	0	1	0	0	0	0	0	0	0	0
RESTRICTED FUNDS	0	0	0	17	0	0	0	10	0	10	2	70	2	70
GOVERNMENT GRANTS & CONTRACTS	0	0	0	20	0	0	0	0	0	0	0	0	0	0
SUBTOTAL - ALL FUNDS	5	204	5	248	5	211	7	278	7	273	9	334	9	335

The Institution has undertaken, in cooperation with the American Philosophical Society and the National Academy of Sciences, the publication of the papers of Joseph Henry, a pioneer American physicist and the first Secretary of the Smithsonian. Over the next five years, the staff of this documentary editing project will continue to collect, transcribe, edit and publish the manuscripts of Joseph Henry.

Smithsonian Astrophysical Observatory

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	103	9760	105	9692	105	9812	111	10657	112	10487	112	10437	112	10387
UNRESTRICTED & SPECIAL PURPOSE FUNDS	92	4256	94	4725	94	4678	94	4730	94	4883	94	5096	94	5317
RESTRICTED FUNDS	0	151	0	140	0	28	0	28	0	28	0	28	0	28
GOVERNMENT GRANTS & CONTRACTS	92	14134	94	12949	100	19518	93	19018	88	19068	88	15902	87	12956
SUBTOTAL - ALL FUNDS	287	28301	293	27506	299	34036	298	34433	294	34466	294	31463	293	28688

The Astrophysical Observatory is devoted to research into the basic physical processes that determine the nature and evolution of the universe. Work is pursued in cooperation with the Harvard College Observatory through a joint venture known as the Harvard-Smithsonian Center for Astrophysics. The major instrument theme for research during the planning period will be based on increased resolution both spatially, via interferometry, and spectrally, in all accessible wavelength bands. A submillimeter interferometry instrument is being planned. Development of detectors at wavelengths from x-ray through submillimeter will be pursued. Improvements are also scheduled for the telescopes at the Fred L. Whipple Observatory and for the facilities there. The mirrors of the Multiple Mirror Telescope atop the Whipple Observatory will be replaced by a large 6.5 meter diameter reflector in order to allow this unique instrument to remain at the forefront of research in optical astronomy. Further, SAO intends to replace its inadequate base camp with a new facility. A program of replacement and improvement of laboratory and computer equipment will continue over the period. The Observatory will be helping to improve the teaching of science and mathematics to precollege students by developing educational materials to engage student interest, taking advantage of the apparent universal attraction of the young to astronomy. SAO also will address and attempt to correct the shortage of support personnel that is hampering scientific productivity.

Smithsonian Tropical Research Institute

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	95	4114	112	5711	129	5879	156	6593	156	6593	156	6593	156	6593
UNRESTRICTED & SPECIAL PURPOSE FUNDS	2	811	3	635	3	542	5	708	6	751	3	742	3	580
RESTRICTED FUNDS	0	538	0	270	0	400	0	100	0	300	0	100	0	150
GOVERNMENT GRANTS & CONTRACTS	9	485	9	614	9	578	9	587	9	605	9	310	0	0
SUBTOTAL - ALL FUNDS	106	5948	124	7230	141	7399	170	7988	171	8249	168	7745	159	7323

The Smithsonian Tropical Research Institute seeks to promote basic and original research on tropical marine and terrestrial organisms, and the role of man in the tropics. During the planning period STRI anticipates strengthening its position as the principal center for studies in tropical biology, in areas of molecular biology, biochemical evolution, aquatic biology,

marine plankton, and soil and forest ecology. Educational and conservation activities will continue focusing on the unique features of the Barro Colorado Island Nature Monument. Additionally, attention will be paid to studies focusing on man's activities affecting the environment. STRI will also continue to make its resources available to organizations of the host country and other institutions to assist in programs of nature conservation and development. An important corollary of this work is the training of third-world students in tropical biology. To effectively support existing programs and to take advantage of unexpected opportunities, facilities modernization involving principal STRI sites, Naos, Galeta, Tivoli and Barro Colorado Island are planned. Construction of the new laboratory/conference center has begun and is to be completed in late FY 1988.

Environmental Research Center

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	40	2088	28	1376	28	1376	34	1641	37	1766	39	1866	42	1991
UNRESTRICTED & SPECIAL PURPOSE FUNDS	1	193	2	201	2	202	2	203	2	206	2	208	2	210
RESTRICTED FUNDS	0	17	0	35	0	0	0	0	0	0	0	0	0	0
GOVERNMENT GRANTS & CONTRACTS	0	400	0	405	0	351	0	351	0	351	0	351	0	351
SUBTOTAL - ALL FUNDS	41	2698	30	2017	30	1929	36	2195	39	2323	41	2425	44	2552

The Environmental Research Center measures physical, chemical and biological interactions in the environment and determines how these interactions affect biological responses. The 2,600 acre facility in Edgewater, Md., is used for research on land/water relationships and to create public awareness and understanding of ecological systems as they might be affected by human disturbance. The construction of a new laboratory wing in FY 1987 and instrument shop in FY 1988 will complete the first phase of the SERC master plan. These will house programs on atmospheric/forest canopy interactions and of the ecological and plant physiological consequences of the increased CO₂ concentrations in the earth's atmosphere. Short term research needs in such fields as geochemistry, agronomy, hydrology, meteorology and hydrodynamics will be addressed through two to three year postdoctoral appointments. In the longer term additional staffing will be required to achieve a critical mass of staff. SERC's long-term research program on landscape ecology of the Chesapeake region will continue to develop a better scientific understanding at the system level.

National Zoological Park

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	321	12223	332	13176	342	13703	373	15016	379	15170	386	15366	389	15451
UNRESTRICTED & SPECIAL PURPOSE FUNDS	3	360	4	582	4	540	4	676	4	691	4	609	4	547
RESTRICTED FUNDS	1	250	1	923	1	872	1	961	1	1093	1	1398	1	1508
GOVERNMENT GRANTS & CONTRACTS	0	90	0	96	0	59	0	0	0	0	0	0	0	0
SUBTOTAL - ALL FUNDS	325	12923	337	14777	347	15174	378	16653	384	16954	391	17373	394	17506

The National Zoological Park is a leader in care, breeding and exhibition of animals. It is a place of public enlightenment and recreation and a center for animal research and the preservation of rare and endangered species. In 1989, the Zoo will celebrate its Centennial, and efforts during this planning period are directed at improving the quality of its programs and facilities. The Zoo will continue the development of long-term zoological and biomedical research activities at Rock Creek and Front Royal. Emphasis will be placed on research problems related to the captive management of wildlife and conservation biology, including physiology, ecology and behavior. New and replacement equipment needs to implement such programs will also be addressed during this planning period. The Zoo will continue to study reintroducing animals to their natural habitats. Training programs for developing wildlife conservation techniques in the tropics will focus on wildlife biologists from developing nations. The visiting public will be made more aware of the plight of endangered species through the use of signs, labels, and expanded graphics. During the planning period facilities and exhibits work will continue on implementing the revised (November 1986) Rock Creek Master Plan. The projects include completion of the Olmsted Walk renovation and landscaping; construction of an Aquatic Habitat exhibits; renovation of the hospital and research facility; exhibits for grassland and forest animals; and construction of a parking facility. At the Front Royal Conservation and Research Center scheduled projects include: construction of a maintenance facility; a new multipurpose animal facility; renovation of the wildlife training center; and design of a pachyderm facility. Sound preventative maintenance programs will be pursued to include new buildings constructed at Rock Creek Park and Front Royal, Virginia.

Smithsonian Institution Archives

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	15	562	15	579	15	630	17	785	18	807	19	829	20	851
UNRESTRICTED & SPECIAL PURPOSE FUNDS	6	192	6	255	6	215	6	218	6	232	6	199	6	201
RESTRICTED FUNDS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOVERNMENT GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL - ALL FUNDS	21	754	21	834	21	845	23	1003	24	1039	25	1028	26	1052

The Smithsonian Archives is the official archives of the Smithsonian Institution. It preserves and provides access to records of the proceedings of the Institution. During the planning period, the Archives will extend archival and records management programs to all records-producing offices of the Institution and will accept increases in volume and diversity of records transferred into the Archives to the extent of its space available during the planning period. The photographic collections survey will continue and produce finder's guides and a central database. Phased improvements in micrographic capability and oral history capability are planned for this period on a limited basis, and development of Archives capability to automate its internal collections management and handle automated, machine-readable records from operating offices will be vigorously pursued. Alternatives to present space will be examined; more space is needed in future years to accommodate increasing volumes of materials.

Smithsonian Institution Libraries

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	96	4881	98	5039	99	5108	100	5255	101	5330	102	5388	102	5436
UNRESTRICTED & SPECIAL PURPOSE FUNDS	10	504	10	446	10	393	10	405	10	415	10	427	11	440
RESTRICTED FUNDS	0	22	0	0	0	0	0	0	0	0	0	0	0	0
GOVERNMENT GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL - ALL FUNDS	106	5407	108	5485	109	5501	110	5660	111	5745	112	5815	113	5876

This SIL serves as the central focus for the Institution in providing library services to the staff and other interested scholars. The principal objective of the Libraries over the planning period is to build strong support for research. This will be accomplished by providing all the resource materials to meet the needs of SI scholars through inter-library loan, commercial document delivery and highly developed local collections. SIL will also identify and describe titles not yet included in the SIL computer database; begin treating preservation problems present in approximately ninety percent of the collections by microfilming and other techniques; and improve remote storage for lesser-used collections. The SIL will continue to support directly the wide fields of SI scholarly research and public and administrative programs through its system of branches located in Washington, Cambridge, New York City, and Panama.

Major Scientific Instrumentation

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	0	0	0	525	3	1405	9	4226	22	9700	31	8000	33	5500
UNRESTRICTED & SPECIAL PURPOSE FUNDS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RESTRICTED FUNDS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOVERNMENT GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL - ALL FUNDS	0	0	0	525	3	1405	9	4226	22	9700	31	8000	33	5500

The development of major scientific instrumentation for Smithsonian research programs is important to enable these research programs to maintain their progress at the forefront of their fields. Because of the magnitude of the costs involved in the alteration or reconfiguration of existing instrumentation and in the fabrication of new instrumentation, and the unique aspects of the work to be done, funding is requested for projects of this sort under this new line-item, rather than under individual bureau line-items. Since these projects will, of necessity, require long-term development as well as multi-year funding, it is requested that these funds be made available until expended, unlike the remainder of the Salaries and Expenses appropriation, which is a one-year appropriation.

RESEARCH - SUMMARY

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	700	34861	720	37361	751	39176	832	45494	857	51169	877	49796	886	47527
UNRESTRICTED & SPECIAL PURPOSE FUNDS	115	6413	120	6997	120	6833	122	7207	123	7452	120	7555	121	7570
RESTRICTED FUNDS	17	1750	8	1779	4	1741	1	1489	1	1817	3	1983	3	2142
GOVERNMENT GRANTS & CONTRACTS	101	15808	103	14782	109	20729	102	20189	97	20269	97	16819	87	13576
SUBTOTAL - ALL FUNDS	933	58832	951	60919	984	68479	1057	74379	1078	80707	1097	76153	1097	70815

Assistant Secretary for Museums

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	9	542	9	553	9	553	9	553	9	553	9	553	9	553
UNRESTRICTED & SPECIAL PURPOSE FUNDS	1	158	1	177	1	180	1	182	1	185	1	185	1	185
RESTRICTED FUNDS	0	10	0	0	0	0	0	0	0	0	0	0	0	0
GOVERNMENT GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL - ALL FUNDS	10	710	10	730	10	733	10	735	10	738	10	738	10	738

The Office acts for the Secretary in coordinating and providing direction to the Institution's various museums and activities that provide museum related support. The Office maintains a liaison with national and international museum organizations, and undertakes special studies on museum operations and methodologies.

Office of Museum Programs

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	12	388	12	401	12	426	13	568	14	592	14	617	14	637
UNRESTRICTED & SPECIAL PURPOSE FUNDS	0	72	0	78	0	69	0	74	0	82	0	82	0	91
RESTRICTED FUNDS	3	339	0	182	1	81	1	81	1	90	1	90	1	96
GOVERNMENT GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL - ALL FUNDS	15	799	12	661	13	576	14	723	15	764	15	789	15	824

During the planning period, the Office of Museum Programs intends to continue high quality museology training and information services (including Internships, the Visiting Professionals Program and the Museum Reference Center), consultations and conferences. Production and distribution of audiovisuals will be maintained. The Museum training workshops conducted by Smithsonian staff will continue locally, and the regionally and internationally based cosponsored workshops and training services will be increased in order to respond to the needs of the broader profession. The Office will continue to serve special minorities, through the Native American Museums Program and Awards for Minority Museum Professionals. Programs to expand the educational influence of museums will be maintained, and internal Smithsonian staff training will be conducted as requested.

Office of the Registrar

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	3	130	3	132	3	132	5	230	5	215	5	228	5	215
UNRESTRICTED & SPECIAL PURPOSE FUNDS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RESTRICTED FUNDS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOVERNMENT GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL - ALL FUNDS	3	130	3	132	3	132	5	230	5	215	5	228	5	215

This Office is responsible for Institutional development, oversight, and coordination of policies and practices related to the management of collections, including accountability procedures and information management techniques for all objects and specimens held by the Smithsonian. Inventory, one aspect of collections management touching on all these matters, has been and will continue to be an important concern throughout the planning period because all bureaus are required to conduct cyclical inventories now that their initial 1978-83 baseline inventories have been completed. A related concern will be the enhancement and updating of collection records to improve knowledge about and access to the collections. In addition, training programs will be developed to support Smithsonian personnel working in collection registration and related functions. The Office also will continue to manage the affairs of the Smithsonian's Registrarial Council and will develop collections management information for dissemination through this group.

National Museum of Natural History

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	530	22422	545	23919	568	25639	625	30128	646	30652	658	30411	663	30246
UNRESTRICTED & SPECIAL PURPOSE FUNDS	3	988	6	798	6	685	8	832	8	834	8	858	8	872
RESTRICTED FUNDS	6	2044	11	3717	10	2951	10	3236	10	3320	5	3171	5	2204
GOVERNMENT GRANTS & CONTRACTS	23	833	30	853	27	682	20	697	20	713	20	730	20	746
SUBTOTAL - ALL FUNDS	562	26287	592	29287	611	29957	663	34893	684	35519	691	35170	696	34068

The NMNH, with responsibilities for the care, enhancement, and display of more than eighty million natural history and anthropological specimens and artifacts, is the Nation's largest research museum. During the planning period, the Museum will continue to conserve and transport research collections being housed at the Museum Support Center. Enhanced collection management support will accelerate the processing of specimens, improve automated records and provide for improved collection storage equipment. Progress will continue with replacement of outmoded research equipment with new, more sophisticated instrumentation. New integrated departmental programs have been or will be initiated in the study of the biological diversity of tropical Latin America and Afro-Asia, the archaeology and anthropology of the native peoples of the

Arctic and Arctic biology, the effects of historical human disturbances on island ecosystems, and the study of the evolution of terrestrial ecosystems-- the process of extinction, both past and present. The Museum will also be pursuing a major new initiative in molecular biology to enhance its ongoing activities in systematic and evolutionary biology. The Museum expects to become involved in a national project (with multi-agency support in collaboration with universities and independent natural history museums) to survey and inventory biotic resources of the United States which will lead to an assessment of the diversity of our plants and animals and their potential utility to humans. A special effort will be made to make more information available about American Indians to both the research community and to the public through increased accessibility and display of collections and related activities. There will be greater emphasis on exchange and cooperation between NMAH and the academic natural history research centers at universities and museums. The Museum proposes to carry out a series of activities planned for the Columbus Quincentenary commemoration, including educational and scholarly symposia, and a major exhibition. Efforts will be made to upgrade the exhibit and public areas of the museum, including halls, meeting rooms, museum shops and public dining facilities.

National Air and Space Museum

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	211	8792	212	9037	220	9450	244	11755	247	11210	247	10901	247	10875
UNRESTRICTED & SPECIAL PURPOSE FUNDS	43	3158	48	3537	47	3688	47	3662	47	3588	47	3659	47	3745
RESTRICTED FUNDS	2	901	2	890	2	622	2	658	2	591	2	598	2	592
GOVERNMENT GRANTS & CONTRACTS	7	542	7	360	5	291	3	195	3	197	3	197	3	201
SUBTOTAL - ALL FUNDS	263	13393	269	13824	274	14051	296	16270	299	15586	299	15355	299	15413

The NASM is the national repository for important aviation and space flight artifacts and documentation, and through its various programs serves the public and scholarly audiences interested in the history and technology of air and space flight. Over the next five years, the Museum's main emphases will be to: increase scholarly research in the fields of planetary geology and the history of aerospace science and technology; update the educational value and intellectual content of the exhibit scripts along with the renovation of the physical setting of the exhibits; expand educational programs with universities, centers of learning, and others; plan and raise funds for a facility providing added space for collections activities and exhibitions; implement a formal archival program and serve as the national center to coordinate the preservation of records documenting the Nation's aerospace programs; and improve and support the research collections of aeronautics and space artifacts. The research and research support staff will be enlarged both by reprogramming of current positions and by seeking additional resources. Collections management will be enhanced through added conservation efforts including air and space artifacts as well as documents, photographs, and audio-visual materials. NASM has expanded its contacts with the research and university communities, and added major programs on the history of space science and the history of aviation. In addition, NASM is expanding its efforts in primary and secondary education programs with a view toward generating earlier student interest in science and technology. An important adjunct to the Museum's research activities, which will benefit collections management, exhibition, and public programs, is the acceleration of the video disc project in future years. New restaurant facilities will be completed during the period and a portion of the former space will be converted to much needed offices and laboratory facilities. The Museum's automation of various systems and programs should be completed during this five year period.

National Museum of American History

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	316	13339	330	13648	336	14242	344	15013	344	14987	344	15009	344	15013
UNRESTRICTED & SPECIAL PURPOSE FUNDS	5	823	5	766	6	819	5	837	5	867	5	886	4	944
RESTRICTED FUNDS	10	2000	6	3816	5	2418	1	2275	1	2369	1	3031	1	3047
GOVERNMENT GRANTS & CONTRACTS	3	90	0	5	0	0	0	0	0	0	0	0	0	0
SUBTOTAL - ALL FUNDS	334	16252	341	18235	347	17479	350	18125	350	18223	350	18926	349	19004

The NMAH, through its research, collections, exhibitions, education, publication and other programs focuses on offering scholars and the public opportunities to better understand the Nation's history. During this period the Museum plans to continue with its major reinstallation program, opening at least one new permanent installation each year while producing a series of temporary exhibits as well. Among the major exhibits and program developments the Museum has plans for are exhibitions about life in the 19th-century, material culture, the Information Age, and an exhibition and other programs in celebration of the Columbus Quincentenary. Development also continues in the Native American Indian Program. As a compliment to these exhibit installations and public programs, the Museum plans to strengthen its comprehensive music performance and recording programs. Concurrently, the Museum will carry on implementation of its Master Plan for the renovation of the Museum building, now twenty-four years old and badly in need of major repairs. This comprehensive work, including renovations to the roof, ventilation, fire protection, and removal of asbestos, has been planned to integrate with the Museum's major reinstallation program. The second aspect of its Master Planning that the Museum expects to pursue during this period, is the twenty year space plan, which projects needs for the period based on a current study of collections growth and related requirements. Special collections management efforts during the coming five year period include the move to the Museum Support Center, renovation and asbestos removal at the Silver Hill facilities. Automation also must be advanced to support collections management, principally collections accountability programs and automation support for management information and collections research. The Museum seeks to promote research generally through an Academic Programs Department, among whose principal functions are the development of collaborative programming with universities and the responsibility for editing the journal, the American Quarterly. The Museum expects to acquire the Duke Ellington Collection, an important and unique archives of music, photographs, notebooks, artwork, scripts, and other memorabilia. Tentative discussions are continuing for the planning and operation of a NMAH Postal Museum as a joint venture of the NMAH and the U.S. Postal Service.

National Museum of American Art

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	118	4932	118	5050	120	5249	125	5383	127	5510	127	5520	127	5475
UNRESTRICTED & SPECIAL PURPOSE FUNDS	4	2422	4	360	4	300	4	307	4	312	4	291	4	289
RESTRICTED FUNDS	0	515	0	314	0	290	0	188	0	179	0	178	0	170
GOVERNMENT GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL - ALL FUNDS	122	7869	122	5724	124	5839	129	5878	131	6001	131	5989	131	5934

Throughout the planning period, NMAA plans to concentrate on traditional program areas such as scholarly research, publications, exhibitions, conservation, public education and acquisitions. Enhancement of NMAA's foremost automated research resource, the Inventory of American Painting, and a nationwide field survey for the parallel Inventory of American Sculpture, will strengthen the Museum's position as a national resource for the study of American art. Exhibitions, research and collecting by the Renwick Gallery will continue to focus on American crafts and decorative arts. These programs will be strengthened over the coming years and there will be new emphasis on research in the crafts field. Spring 1987 saw the first issue of the Museum's journal Smithsonian Studies in American Art; the Museum hopes to expand to a quarterly publication during the next five years.

National Portrait Gallery

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	83	3822	86	4069	89	4034	95	4383	95	4357	95	4389	96	4416
UNRESTRICTED & SPECIAL PURPOSE FUNDS	0	73	0	62	0	70	0	90	0	74	0	82	0	84
RESTRICTED FUNDS	0	200	0	323	0	320	0	153	0	118	0	227	0	271
GOVERNMENT GRANTS & CONTRACTS	0	114	0	67	0	0	0	0	0	0	0	0	0	0
SUBTOTAL - ALL FUNDS	83	4209	86	4521	89	4424	95	4626	95	4549	95	4698	96	4771

The NPG is dedicated to the exhibition and study of portraiture (including photographs) of people who have made significant contributions to the history and development of the United States, and of the artists who created such portraiture. Three major exhibitions are planned in commemoration of the Bicentennial of the U.S. Constitution: "American Colonial Portraits: 1700 to 1776," "The First Federal Congress," and "Portraits of Distinguished American Jurists." To coincide with the opening of the American Jurists show, an interpretive program to encourage the reading and understanding of the U.S. Constitution, to examine the lives of the men who wrote it, and the great legal figures who interpreted it, will be offered to high school classes of gifted and talented students. A symposium and a self-portrait program may also be presented in conjunction with this exhibition. The Gallery's collections need additional storage space, and better environmental

controls are required in various institutional storage areas. Resources for research must be enhanced in future years, so both NPG staff and visiting scholars can take full advantage of the collections and can contribute fully to increasing knowledge and understanding of the NPG holdings. As the Gallery has become more involved in computerization, the need for specialized assistance to manage the expansion of automated collection control and managerial systems has grown; resources will have to be acquired in the future to manage the rapidly changing situation. The Gallery is planning to participate in the Columbus Quincentenary with a special exhibit on masterpieces of Spanish portraiture.

Hirshhorn Museum and Sculpture Garden

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	77	3253	78	3351	78	3351	78	3549	78	3654	78	3848	78	3898
UNRESTRICTED & SPECIAL PURPOSE FUNDS	0	217	0	248	0	156	0	157	0	158	0	161	0	162
RESTRICTED FUNDS	0	1015	0	1007	0	600	0	600	0	600	0	600	0	700
GOVERNMENT GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL - ALL FUNDS	77	4485	78	4606	78	4107	78	4306	78	4412	78	4609	78	4760

The HMSG is a fine arts museum, focused on the still developing field of modern and contemporary art, with a collection of more than 13,000 objects and works of art. Priorities over the next several years are to safeguard and care for the collection while pursuing active accessioning, deaccessioning, and publication efforts; to develop and present loan and traveling exhibitions; to encourage and develop greater public understanding of modern art; to research the collections and to help other museums and scholars in this effort while pursuing research on modern and contemporary art in general; to solicit gifts, donations and objects of the highest quality which fill gaps in the collection or which are of use for illustrative and research purposes; and to provide for the professional development of the staff and to pursue the training of others through predoctoral, postdoctoral, fellowship, and internship programs. The Museum intends to strengthen its use of computers in various aspects of its daily operations including the storing of visual images of the permanent collection. The Museum proposes to develop a major exhibition in 1992 for the Columbus Quincentenary observations on contemporary art in Latin America.

Center for Asian Art

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	63	3929	68	3961	69	4411	78	5176	79	5250	80	5274	80	5074
UNRESTRICTED & SPECIAL PURPOSE FUNDS	1	181	1	91	1	91	1	94	1	99	1	100	1	101
RESTRICTED FUNDS	22	1873	22	1528	22	1524	22	1836	22	1722	22	1753	22	1723
GOVERNMENT GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL - ALL FUNDS	86	5983	91	5580	92	6026	101	7106	102	7071	103	7127	103	6898

The CAA consists of the Freer Gallery of Art and the Arthur M. Sackler Gallery. The Freer is dedicated to searching for and acquiring works of oriental art of the highest quality and to the care, study, and display of its collections as keys to understanding the civilizations that produced them. The Sackler Gallery is similarly devoted to the acquisition, study, care, interpretation and exhibition of Asian art. The September 1987 opening of the Sackler Gallery in the Quadrangle allows the Center to refine and expand its programs in selected areas over the next five years. Staff and resources are projected for the Sackler Gallery to develop its traveling exhibition program, research, collections acquisitions and management and publications programs. Future year plans include expansion of the conservation staff of the Center subsequent to the renovation of the Freer which will result in expanded conservation facilities, collection storage and office areas. Additional funds to the Freer exhibition base will support updating of lighting, cases, general permanent collection installation and exhibitions in gallery space provided by the renovation. Emphasis will be placed on the development of an aggressive collections acquisitions program for both the Freer Gallery of Art and the Arthur M. Sackler Gallery to assure acquisition of the finest quality objects and to search for particular examples that strengthen existing holdings.

Archives of American Art

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	19	1015	19	1041	20	1080	21	1302	22	1402	22	1402	22	1402
UNRESTRICTED & SPECIAL PURPOSE FUNDS	0	92	0	128	0	98	0	99	0	100	0	101	0	102
RESTRICTED FUNDS	12	758	12	945	12	826	12	836	12	852	12	864	12	877
GOVERNMENT GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL - ALL FUNDS	31	1865	31	2114	32	2004	33	2237	34	2354	34	2367	34	2381

The AAA is the nation's largest repository of documentary materials relating to the history of the visual arts in the United States. Its primary purpose is to acquire and preserve the documents needed by historians and other scholars for research in all aspects of American art history. The Archives staff will direct attention to the management and care of the

collections by strengthening its collections management staff and by reorganizing some elements of its operations to reduce its processing backlog. A major effort, funded by grants, will convert manual catalogs to a national automated database. Special collections of photographs and works on paper will receive additional cataloging and conservation measures. Greater emphasis will be placed on acquiring important oral history interviews through a nationwide grant funded program. A series of publications on the collections, meant for the general public as well as the specialized scholar, will commence. The most critical problem to be solved during the five year period is the acute need for space to house the growing collections and staff. Planning will continue for acquiring added space at the General Post Office Building and alternative locations.

Cooper-Hewitt Museum

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	30	1048	30	1076	33	1269	34	1395	34	1395	33	1371	33	1371
UNRESTRICTED & SPECIAL PURPOSE FUNDS	26	2010	26	2127	26	2171	26	2147	26	2212	26	2266	26	2263
RESTRICTED FUNDS	1	982	1	835	1	689	1	349	1	115	1	116	1	114
GOVERNMENT GRANTS & CONTRACTS	0	81	0	50	0	50	0	50	0	50	0	50	0	50
SUBTOTAL - ALL FUNDS	57	4121	57	4088	60	4179	61	3941	61	3772	60	3803	60	3798

The CHM is the only museum in the United States devoted exclusively to the study and exhibition of historical design. The collections span more than 3,000 years and are supported by one of the finest specialized libraries in the country. CHM continues to plan for a fundraising effort in order to undertake and complete improvements to its physical facilities. Exhibition programming and educational activities will continue during the fundraising cycle. Collections management efforts will focus on refinement of collections records, and, when appropriate, relocating the collections for renovation efforts to proceed. Increased resources for the care and preservation of the collections and to maintain the physical plant and facilities are needed. Similarly, additional support to manage graphic and archival collections not appropriately combined with the existing prints and drawings holdings, as well as curatorial support for all of its architectural, design, and wall coverings collections are needed.

National Museum of African Art

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	51	3124	56	3401	58	3485	59	3704	59	3829	59	3829	59	3829
UNRESTRICTED & SPECIAL PURPOSE FUNDS	5	1356	5	339	4	279	4	148	1	194	1	197	1	198
RESTRICTED FUNDS	0	236	0	313	0	595	0	213	0	18	0	21	0	18
GOVERNMENT GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL - ALL FUNDS	56	4716	61	4053	62	4359	63	4065	60	4041	60	4047	60	4045

The NMAfA is the only museum in the United States dedicated to the collection, study, and exhibition of African art. Its purpose is to foster public understanding and appreciation of the diverse cultures and artistic achievements of Africa, with special emphasis on sub-Saharan Africa. During the planning period, NMAfA will continue to strengthen the quality of its collection to assure understanding of African visual traditions by the national and international audience it serves. The Museum will advance a substantive publication program including a collection series bulletin, exhibition catalogues and monographs based on scholarly research. A conservation program of examination, scientific testing and preservation of collection material will be accelerated and an annual conservation bulletin will be published. Special emphasis will be placed on cataloging and computerization of the material in the collection of the Museum's photographic archives. During the period, the NMAfA will host the VIII Triennial Symposium on African Art and will be working toward special symposia and conferences on the "Art of Luba, Archetypes in African Art," and "Nomadic Art and Architecture."

Anacostia Museum

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	19	913	19	931	21	1001	24	1108	25	1148	26	1178	28	1200
UNRESTRICTED & SPECIAL PURPOSE FUNDS	1	45	1	44	1	44	1	45	1	46	1	47	1	48
RESTRICTED FUNDS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOVERNMENT GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL - ALL FUNDS	20	958	20	975	22	1045	25	1153	26	1194	27	1225	29	1248

The ANM recently moved to the new facility at Fort Stanton. During the planning period, the AM intends to strengthen its research program in support areas such as registration and libraries. Exhibits efforts will be enhanced through the addition of modern equipment in design and photographic areas. The education and outreach activities need greater support to allow for improved activities directed at schools. Long-range plans include closer collaboration with other Smithsonian history and art museums involving joint research, systematic information collection and retrieval, education, collection and curatorial programs. The Museum will continue to develop research and exhibition projects that support in-house and traveling exhibitions and to locate and interpret historical documents, artifacts, and memorabilia that are germane to its programs.

Conservation Analytical Laboratory

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	41	2372	41	2418	41	2418	44	2643	46	2779	48	2894	50	2964
UNRESTRICTED & SPECIAL PURPOSE FUNDS	0	14	0	20	0	20	0	20	0	20	0	20	0	20
RESTRICTED FUNDS	1	30	1	50	0	0	0	0	0	0	0	0	0	0
GOVERNMENT GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL - ALL FUNDS	42	2416	42	2488	41	2438	44	2663	46	2799	48	2914	50	2984

As programs initiated in recent years are becoming fully operational, an increasing range of projects addressing questions in conservation and preservation, as well as archaeology and art history, are pursued. Research will examine mechanisms and parameters, including environmental, which govern deterioration processes of importance in the conservation of museum objects, and will provide a base for work on the development of new and improved conservation technology. Special emphasis will be placed on research in the conservation of photographic materials, and the degradation of proteinaceous materials. The range of materials studied in archaeometrical research will be extended, especially into the area of organic materials. Results of these research programs will add significantly to the appropriate databases, including the Smithsonian Archaeometric Research Collections and Records (SARCAR). This database also will continue to expand through the collection of existing information scattered in laboratories throughout the country. All staff, laboratory and information resources are available for the further development of the conservation training program, which also supports conservation activities in other organizations.

Office of Exhibits Central

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	44	1753	46	1841	46	1841	47	1875	48	1899	49	1928	49	1928
UNRESTRICTED & SPECIAL PURPOSE FUNDS	0	32	0	-7	0	-13	0	22	0	-23	0	-28	0	32
RESTRICTED FUNDS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOVERNMENT GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL - ALL FUNDS	44	1785	46	1834	46	1828	47	1897	48	1876	49	1900	49	1960

The Office will continue to produce, install, and maintain exhibitions and to provide other specialized services to the bureaus of the Institution. Highly specialized OEC capabilities include design and editorial services, freeze-dry taxidermy and all types of model making. In support of the Office of Museum Programs, the OEC provides workshop training in

exhibition media and techniques for museum professionals throughout the world. Over the course of this planning period obsolete equipment will be gradually replaced with more reliable and technologically current machinery. Some support for Quadrangle related exhibition programs is being sought in FY 1988 and is contained in the OEC trends below.

Smithsonian Institution Traveling Exhibition Service

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	15	569	17	743	18	773	21	1099	22	978	23	1007	24	1036
UNRESTRICTED & SPECIAL PURPOSE FUNDS	31	1893	31	2109	31	2267	28	2337	27	2408	26	2480	25	2555
RESTRICTED FUNDS	3	514	1	1583	0	920	0	345	0	300	0	300	0	300
GOVERNMENT GRANTS & CONTRACTS	0	132	0	19	0	0	0	0	0	0	0	0	0	0
SUBTOTAL - ALL FUNDS	49	3108	49	4454	49	3960	49	3781	49	3686	49	3787	49	3891

SITES provides specially designed exhibits to museums, colleges, community, business, and, cultural organizations throughout the country and abroad. Resources for Quadrangle and other support including Quincentenary research and exhibition activities are needed. Education activities associated with SITES exhibitions will be sustained. These activities involve schools, multi-media workshops and workshops on new areas of education technology. Over the planning period the international exhibition program, along with continued production and circulation of other high quality exhibitions, will be emphasized. SITES is planning a number of exhibit efforts to coincide with the Columbus Quincentenary celebration.

MUSEUMS - SUMMARY

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	1641	72343	1689	75572	1741	79354	1866	89864	1900	90410	1917	90359	1928	90132
UNRESTRICTED & SPECIAL PURPOSE FUNDS	120	13534	128	10877	127	10924	125	11053	121	11156	120	11387	118	11691
RESTRICTED FUNDS	60	11417	56	15503	53	11836	49	10770	49	10274	44	10949	44	10112
GOVERNMENT GRANTS & CONTRACTS	33	1792	37	1354	32	1023	23	942	23	960	23	977	23	997
SUBTOTAL - ALL FUNDS	1854	99086	1910	103306	1953	103137	2063	112629	2093	112800	2104	113672	2113	112932

Assistant Secretary for Public Service

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	4	228	4	236	4	236	4	236	4	236	4	236	4	236
UNRESTRICTED & SPECIAL PURPOSE FUNDS	6	426	5	394	5	408	5	519	5	531	5	544	5	557
RESTRICTED FUNDS	0	-17	0	0	0	0	0	0	0	0	0	0	0	0
GOVERNMENT GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL - ALL FUNDS	10	637	9	630	9	644	9	755	9	767	9	780	9	793

This Office provides administrative oversight and guidance to the Institution's Public Service programs. Overall goals over the next five years are to broaden educational outreach initiatives and national and international constituencies.

Office of Telecommunications

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	5	224	5	231	5	231	5	231	5	231	5	231	5	231
UNRESTRICTED & SPECIAL PURPOSE FUNDS	9	686	9	637	9	672	9	681	9	707	9	730	9	751
RESTRICTED FUNDS	0	1	0	0	0	0	0	0	0	0	0	0	0	0
GOVERNMENT GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL - ALL FUNDS	14	911	14	868	14	903	14	912	14	938	14	961	14	982

This office extends the Institution's educational outreach by taking the museums and their research to the public through films, radio and television programs. The Office works closely with the Media Review Board to assist in coordinating and developing media projects. OTC will expand efforts to obtain maximum distribution for Smithsonian-produced films and video programs, develop and refine plans for Smithsonian children's series for both television and radio, work with other units to explore and develop interactive video programs, and upgrade the Institution's capacity to plan and produce teleconferences. The Office will explore expanding its services to radio stations to take greater advantage of live performances of music from around the world. In addition, the development of program ideas for video, film and audio productions with appeal for minority audiences will be actively pursued. Also during the next five years, the OTC will work with the Visitors Information and Associates Reception Center to produce new orientation programs for members of the public, for viewing both on-site and at home.

Visitors Information and Associates Reception Ctr.

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	3	208	3	211	3	211	3	486	3	236	3	236	3	236
UNRESTRICTED & SPECIAL PURPOSE FUNDS	21	876	23	976	24	1069	24	1101	24	1134	24	1168	24	1203
RESTRICTED FUNDS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOVERNMENT GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL - ALL FUNDS	24	1084	26	1187	27	1280	27	1587	27	1370	27	1404	27	1439

VIARC administers a range of centralized information and assistance programs for the public, Associate members, Smithsonian staff, volunteers and interns. Many programs involve the coordination and direction of large numbers of volunteers who constitute a primary source of support for the Institution's public information programs and for staff project assistance behind the scenes. Information and reception services for the public and Associate members of the Institution are projected to increase significantly with the establishment of the Air & Space membership constituency, the opening of the Quadrangle, the continued implementation of the exterior graphic information system, and the phased opening of the new Smithsonian Information Center in the Castle (for which \$2.7 million has been pledged or received from the Pew Memorial Trust, The Kresge Foundation, the Morris and Gwendolyn Cafritz Foundation, the Smithsonian's Contributing Membership Program, National Board and James Smithson Society). Volunteer recruitment and training will be escalated to provide the appropriate level of staffing at museum and telephone information desks and in the new Information Center. VIARC will increase efforts to promote previsit education (through the tour and travel industry) and memberships in the Smithsonian Institution.

Office of Public Affairs

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	12	632	12	627	12	627	12	627	12	627	12	627	12	627
UNRESTRICTED & SPECIAL PURPOSE FUNDS	4	551	5	610	5	647	5	682	5	742	5	765	5	799
RESTRICTED FUNDS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOVERNMENT GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL - ALL FUNDS	16	1183	17	1237	17	1274	17	1309	17	1369	17	1392	17	1426

As the central administrative public information unit at the Smithsonian, the Office of Public Affairs sets policy for, coordinates and guides the public information programs of the entire Institution. The Office is continuing and expanding its efforts to increase minority visits to the Institution and minority participation in Smithsonian activities by enhancing awareness of the Smithsonian in a variety of ethnic media. Radio, printed materials and televised public service announcements are a part of this effort. The Office is producing a Spanish-language version of the Smithsonian News

Service, a feature story service distributed to more than 2,000 newspapers nationwide. Media materials on Smithsonian research will continue to be produced by OPA. Efforts will be intensified to increase public awareness among wider audiences of Smithsonian research, performances and cultural events. Long-range plans include the coordination of pan-Institutional public affairs programs concerning the Columbus Quincentenary.

Smithsonian Institution Press

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	29	1166	29	1197	29	1197	29	1197	29	1197	29	1197	29	1197
UNRESTRICTED & SPECIAL PURPOSE FUNDS	37	12385	37	13195	37	15055	38	16825	38	17675	39	18860	39	19055
RESTRICTED FUNDS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOVERNMENT GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL - ALL FUNDS	66	13551	66	14392	66	16252	67	18022	67	18872	68	20057	68	20252

The SIP, with three divisions, is the publishing arm of the Institution. The three divisions are the University Press, Direct Mail and Recordings. Long-range plans call for gradual growth of the university press division. Emphasis will be placed on scholarly publications in anthropology, art and art history, American studies, aviation and space, natural history and museum management. Careful attention will continue to be given to electronic publishing (data base storage, retrieval and desktop publishing) and the establishment of a video cassettes division. The direct mail book division's goals are to continue to publish books of general interest primarily to Smithsonian Associates that are well-written and carefully researched. The Press will attempt to increase the diversity of audiences by developing and publishing books aimed at discrete audiences. The records division will continue to produce one or two popular record packages a year and will start again releasing two or three scholarly records a year; the division is examining broader distribution through retail outlets.

PUBLIC SERVICE - SUMMARY

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	53	2458	53	2502	53	2502	53	2777	53	2527	53	2527	53	2527
UNRESTRICTED & SPECIAL PURPOSE FUNDS	77	14924	79	15812	80	17851	81	19808	81	20789	82	22067	82	22365
RESTRICTED FUNDS	0	-16	0	0	0	0	0	0	0	0	0	0	0	0
GOVERNMENT GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL - ALL FUNDS	130	17366	132	18314	133	20353	134	22585	134	23316	135	24594	135	24892

Directorate of International Activities

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	12	634	12	884	12	884	12	1884	12	1884	12	188
UNRESTRICTED & SPECIAL PURPOSE FUNDS	11	955	10	804	10	799	10	799	10	814	10	83
RESTRICTED FUNDS	0	44	0	160	0	161	0	103	0	103	0	10
GOVERNMENT GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL - ALL FUNDS	23	1633	22	1848	22	1844	22	2786	22	2801	22	282

The DIA monitors, coordinates, and enhances the Smithsonian endeavors in international services, including for managing the Institution's Foreign Currency Program and oversight of activities related to the Institution's commemoration of the Columbus Quincentenary. The Quincentenary is anticipated to require substantial level programs ranging from publications to exhibitions. Although not reflected in the Prospectus figures, the considering a joint project (with a broadcasting company and a noted independent producer) to film a ten-part series to appear in 1989-1990 in anticipation of the Quincentenary commemoration; this project is intended broad understanding of the history of the confluence of indigenous and Hispanic traditions of the Americas Currency funds, not part of the Institution's federal operating appropriation, are not included in the tab throughout the planning period funds previously appropriated to the Foreign Currency Program and allocated arrangements such as the US-India Fund will continue to be centrally administered. During the latter part internal review of the Directorate was undertaken. The results of this review will likely lead to a reartitioning among other Smithsonian units of DIA activities.

American Studies and Folklife Programs

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	8	750	8	806	10	925	10	1025	10	1060	10	1221	10	1035
UNRESTRICTED & SPECIAL PURPOSE FUNDS	12	713	14	933	14	863	14	1014	14	1040	14	1066	14	1096
RESTRICTED FUNDS	0	136	0	440	0	499	0	2589	0	1853	0	2095	0	602
GOVERNMENT GRANTS & CONTRACTS	0	676	0	1499	0	1729	0	742	0	848	0	1908	0	2756
SUBTOTAL - ALL FUNDS	20	2275	22	3678	24	4016	24	5370	24	4801	24	6290	24	5489

During FY 1988-93 the Office of Folklife Programs will continue to research and document folk cultural traditions; plan and produce the annual Festival of American Folklife; publish monographs and films through the Smithsonian Folklife Studies Series; perform research on the archives including the recently acquired Moses and Frances Asch Folkways Records Collection; develop its Columbian Quincentenary programs; organize folklife exhibitions in concert with other Smithsonian bureaus; and publish scholarly books, articles, and reviews. The Office of American Studies will continue to sponsor a graduate program in American material culture in cooperation with various universities in and outside of the Washington, D.C. area; the activities and resources associated with this program currently are not expected to change in a major fashion.

International Environmental Science Program

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	13	742	13	750	13	750	15	842	15	979	15	1009	15	1009
UNRESTRICTED & SPECIAL PURPOSE FUNDS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RESTRICTED FUNDS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOVERNMENT GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL - ALL FUNDS	13	742	13	750	13	750	15	842	15	979	15	1009	15	1009

Over the five-year planning period, increasing attention will be paid to studies in tropical and subtropical regions where new knowledge is necessary to understand the complexities of biological diversity. Man-related activities, coupled with natural processes are causing severe disruptions to these ecosystems which serve as centers for important sources of food, pharmaceuticals and other products for man. The destruction of these ecosystems must be studied in order to develop a means to retard biotic degradation. During FY 1988-1993 additional sites are contemplated for study in the Neotropics and old world tropics to enhance research efforts in biological diversity.

Office of Fellowships and Grants

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	9	285	9	394	9	394	9	394	9	394	9	394	9	394
UNRESTRICTED & SPECIAL PURPOSE FUNDS	4	2014	4	2111	4	2122	4	2347	4	2460	4	2574	4	2689
RESTRICTED FUNDS	0	69	0	47	0	37	0	31	0	25	0	17	0	15
GOVERNMENT GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL - ALL FUNDS	13	2368	13	2552	13	2553	13	2772	13	2879	13	2985	13	3098

The Office administers the Institution's fellowship programs and visiting academic appointments and internships. Since 1979, most of these activities have been supported with nonappropriated trust funds. Approximately 100 fellowships and 500 other awards are offered each year. The funding projected will enable the Smithsonian to offer an increase in the number and kinds of awards. It will allow for expanded fellowship programs, short-term visiting scholar and student appointments and workshops, and will encourage international participation (especially of third world countries) in all programs. In addition, through the Office the Institution provides opportunities for increased participation of minority students and scholars through the Cooperative Education Program, Education Fellowships, internships, faculty fellowships, the Native American Program and other offerings. The Office assumed the administration of the Scholarly Studies Program in FY 1987; increased resources are projected to expand the number and kinds of awards available to Smithsonian staff for research support.

Office of Interdisciplinary Studies

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	3	200	3	101	3	136	5	242	7	335	7	365	7	410
UNRESTRICTED & SPECIAL PURPOSE FUNDS	2	232	2	216	2	222	2	226	2	233	2	337	2	242
RESTRICTED FUNDS	0	146	0	99	0	58	0	6	0	6	0	6	0	6
GOVERNMENT GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL - ALL FUNDS	5	578	5	416	5	416	7	474	9	574	9	708	9	658

The Office, formerly titled the Office of Smithsonian Symposia and Seminars, will continue to design public service educational programs combining the increase of knowledge with the diffusion of knowledge. Its interdisciplinary approach involves the search for significant themes, commemorations, issues, or problems requiring attention of a broad variety of specialties in the humanities and sciences. Through symposia, seminars, books and other educational materials it serves as a bridge within academia on the one hand, and on the other a link between practitioners, patrons, and users of research. In the next decade the Office's resources will be focused in several areas: (1) serving as part of a national and

international network of educators and other specialists to help commemorate the 200th anniversary of the U.S. Constitution and Bill of Rights; (2) planning interdisciplinary scholarly activities for the Institution's commemoration of the Columbus Quincentenary; (3) encouraging Smithsonian cooperation with research centers, colleges, and universities to improve Americans' understanding of other societies and cultures; and (4) promoting intramural communication and cooperation among professional staff and Smithsonian Fellows through a series of faculty seminars. In addition, the Office will administer special projects of pan-institutional interest.

Elementary and Secondary Education

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	7	353	7	351	7	404	7	404	7	366	7	366	7	366
UNRESTRICTED & SPECIAL PURPOSE FUNDS	3	196	3	216	3	225	3	233	3	239	3	250	3	257
RESTRICTED FUNDS	0	12	0	0	0	0	0	0	0	0	0	0	0	0
GOVERNMENT GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL - ALL FUNDS	10	561	10	567	10	629	10	637	10	605	10	616	10	623

The OESE helps to make Smithsonian resources for learning available to schools and other organizations. The Office will carry on its plans to strengthen the Institution's role in addressing the crisis in precollege education in the United States. During the period, this effort will be increased through predominantly three areas of endeavor: more teacher training, expanded production of supplementary curriculum materials, and concerted efforts to strengthen relationships between museums and schools. Growth in readership of the publication Art to Zoo is projected but can be accommodated within existing federal resources. Through trust funds, a number of experimental educational materials kits have been developed and more such units may be produced on various art, history, and science subjects based on Smithsonian collections and research interests. Under the aegis of OESE, an advisory Council on Education will continue to provide SI education and related offices with guidance on pan-institutional issues. A book series for children, regional workshops for teachers, production of learning materials for hospitalized children, a collaborative effort in children's radio, activities for disabled visitors, summer intern programs for talented young people and exceptional teachers from across the country, and a program to introduce minority high school students to career opportunities at the Smithsonian are all expected to be in place and functioning well over the planning period.

National Science Resources Center

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	0	0	1	125	3	223	6	337	6	337	6	337	6	337
UNRESTRICTED & SPECIAL PURPOSE FUNDS	2	180	2	169	2	180	2	185	2	191	2	197	2	203
RESTRICTED FUNDS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOVERNMENT GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL - ALL FUNDS	2	180	3	294	5	403	8	522	8	528	8	534	8	540

The NSRC will continue its efforts to reverse the deterioration in the quality of precollege science and mathematics education. Convinced that this effort will require the collaboration of educators and scientists, the NSRC is working closely with state and local school systems, research scientists, educational and scientific organizations, and science museums to develop high quality resource materials and leadership development programs. During the next five years, one of the National Science Resources Center's priorities will be the improvement of science teaching at the elementary school level. In addition, NSRC will contribute to the improvement of science and mathematics teaching in the nation's schools by establishing a curriculum resource center and information database; by developing resource materials for science and mathematics teachers; and by organizing a program of leadership-development activities for teachers and curriculum supervisors.

Regents' Fellowships and Publication Funds

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UNRESTRICTED & SPECIAL PURPOSE FUNDS	0	200	0	185	0	180	0	255	0	260	0	265	0	270
RESTRICTED FUNDS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOVERNMENT GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL - ALL FUNDS	0	200	0	185	0	180	0	255	0	260	0	265	0	270

Collection Acquisition, Scholarly Studies, Education Program and Smithsonian Awards (CARE)

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UNRESTRICTED & SPECIAL PURPOSE FUNDS	0	4305	0	5565	0	5620	0	6525	0	6895	0	7245	0	7570
RESTRICTED FUNDS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOVERNMENT GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL - ALL FUNDS	0	4305	0	5565	0	5620	0	6525	0	6895	0	7245	0	7570

These trust funds support a variety of institutional activities such as purchase of special collections, workshops for minorities and the handicapped, educational conference and products, and meritorious research projects. Some increase in funding is projected if the Institution's revenue generating activities continue to perform in a good fashion.

Special Exhibition Program

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UNRESTRICTED & SPECIAL PURPOSE FUNDS	0	2700	0	3160	0	3220	0	3300	0	3300	0	3300	0	3300
RESTRICTED FUNDS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOVERNMENT GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL - ALL FUNDS	0	2700	0	3160	0	3220	0	3300	0	3300	0	3300	0	3300

Projections of trust support are based on the continued good performance of the Institution's business, auxiliary, and Associates programs. This is a special Regents' program for funding meritorious exhibit proposals from bureaus which cannot be accommodated within available federal base resources. These efforts also may be partially funded with gifts and grants from outside donors.

Museum Support Center

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	36	1386	36	1417	42	1567	60	2681	55	2127	42	2078	42	1276
UNRESTRICTED & SPECIAL PURPOSE FUNDS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RESTRICTED FUNDS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOVERNMENT GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL - ALL FUNDS	36	1386	36	1417	42	1567	60	2681	55	2127	42	2078	42	1276

Museum Support Center - Equipment

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	0	3058	0	3058	0	3058	0	6000	0	4800	0	4800	0	4800
UNRESTRICTED & SPECIAL PURPOSE FUNDS	0	149	0	59	0	0	0	0	0	0	0	0	0	0
RESTRICTED FUNDS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOVERNMENT GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL - ALL FUNDS	0	3207	0	3117	0	3058	0	6000	0	4800	0	4800	0	4800

Trends portrayed for FY 1989 through FY 1993 reflect plans to meet the initial operating and equipping requirements (exclusive of utilities) for the Center. Over the period, about \$23.0 million is planned for investing in equipment requirements. Operating funds for administration and maintenance of the MSC are projected at about \$1.0 million annually and costs of about \$4.0 million to support the physical transfer of collections from museums are projected over the period. Funds for operational costs of program units which are involved in the MSC are included in the appropriate base of the units. Utilities are included in the Facilities Services chapter, along with security, building engineers, and other requirements.

SPECIAL PROGRAMS - SUMMARY

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	76	6774	77	7002	87	7457	112	11925	109	10398	96	10570	96	9627
UNRESTRICTED & SPECIAL PURPOSE FUNDS	23	10689	25	12614	25	12632	25	14085	25	14618	25	15234	25	15627
RESTRICTED FUNDS	0	363	0	586	0	594	0	2626	0	1884	0	2118	0	623
GOVERNMENT GRANTS & CONTRACTS	0	676	0	1499	0	1729	0	742	0	848	0	1908	0	2756
SUBTOTAL - ALL FUNDS	99	18502	102	21701	112	22412	137	29378	134	27748	121	29830	121	28633

Office of Membership and Development

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UNRESTRICTED & SPECIAL PURPOSE FUNDS	18	933	21	1046	21	1051	21	1356	21	1440	21	1532	21	1617
RESTRICTED FUNDS	0	15	0	0	0	0	0	0	0	0	0	0	0	0
GOVERNMENT GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL - ALL FUNDS	18	948	21	1046	21	1051	21	1356	21	1440	21	1532	21	1617

The Office serves as the focus for fund-raising activities of the Institution and oversees the operations of the National and Resident Associate Programs. As the bureaux assume greater responsibility for their own fund-raising, the Office will concentrate increasingly on pan-Institutional needs.

Smithsonian Magazine

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UNRESTRICTED & SPECIAL PURPOSE FUNDS	94	53290	94	56920	94	61135	95	63680	96	66745	96	69270	97	73105
RESTRICTED FUNDS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOVERNMENT GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL - ALL FUNDS	94	53290	94	56920	94	61135	95	63680	96	66745	96	69270	97	73105

Expenditures are expected to increase substantially due to continued cost increases associated with publication. Demand should remain strong, and the Magazine will continue to operate and produce a surplus for institutional program activities.

National Associates Program

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UNRESTRICTED & SPECIAL PURPOSE FUNDS	38	14901	40	17454	40	18907	42	20494	43	22201	44	24052	45	26085
RESTRICTED FUNDS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOVERNMENT GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL - ALL FUNDS	38	14901	40	17454	40	18907	42	20494	43	22201	44	24052	45	26085

Continued expansion is forecast for all SNAP programs throughout the planning period; demand for travel, lecture and seminar programs should remain strong, while new acquisition, upgrade and retention strategies will precipitate continued growth in the Contributing Membership Program. Specific initiatives may include: establishment of a new study/tour program for encouraging new high-level contributing members and unrestricted donations from current members; implementing a long-term program of special fund raising appeals under guidance of Development Committee; Extending international lectures and seminars; maintaining modest growth in study/tours and participants; creating new opportunities for volunteers; developing modestly priced, interdisciplinary SI walking tours; expanding SNAP/NASM/Air & Space Magazine cooperative study/tour program; and offering a seminar program between SI scholars and institutions and associates from academia.

Resident Associates Program

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UNRESTRICTED & SPECIAL PURPOSE FUNDS	50	3871	51	4575	51	4790	53	5000	54	5175	55	5355	55	5435
RESTRICTED FUNDS	0	6	0	47	0	20	0	21	0	20	0	21	0	20
GOVERNMENT GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL - ALL FUNDS	50	3877	51	4622	51	4810	53	5021	54	5195	55	5376	55	5455

During the planning period, SRAP objectives will include increasing memberships through identification of new markets, direct mail and advertising; increasing promotional efforts to reach new and diverse audiences; organizing and conducting income producing programs; increasing fund raising efforts targeted toward foundation and corporate giving; and developing and implementing automated systems.

Air and Space Magazine

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UNRESTRICTED & SPECIAL PURPOSE FUNDS	25	6975	27	7635	27	8525	29	9075	30	9905	31	10665	32	11560
RESTRICTED FUNDS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOVERNMENT GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL - ALL FUNDS	25	6975	27	7635	27	8525	29	9075	30	9905	31	10665	32	11560

The projections are expenditure estimates, and reflect start up costs related to the first few years of operation. Circulation is expected to be around two hundred thousand in the beginning. The effort should begin to produce some small surplus about the fourth year of operation.

ASSOCIATE PROGRAMS - SUMMARY

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UNRESTRICTED & SPECIAL PURPOSE FUNDS	225	79970	233	87630	233	94408	240	99605	244	105466	247	110874	250	117802
RESTRICTED FUNDS	0	21	0	47	0	20	0	21	0	20	0	21	0	20
GOVERNMENT GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL - ALL FUNDS	225	79991	233	87677	233	94428	240	99626	244	105486	247	110895	250	117822

Business Management Office

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UNRESTRICTED & SPECIAL PURPOSE FUNDS	8	730	8	865	9	985	9	1040	9	1090	9	1130	9	1185
RESTRICTED FUNDS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOVERNMENT GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL - ALL FUNDS	8	730	8	865	9	985	9	1040	9	1090	9	1130	9	1185

A strengthened Product Development and Licensing program will emphasize educational products which will increase public knowledge of Smithsonian collections and activities.

Museum Shops

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UNRESTRICTED & SPECIAL PURPOSE FUNDS	225	19245	227	21682	227	22835	240	24610	245	26550	250	28730	255	30980
RESTRICTED FUNDS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOVERNMENT GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL - ALL FUNDS	225	19245	227	21682	227	22835	240	24610	245	26550	250	28730	255	30980

An expanded shop is planned in the National Museum of Natural History to improve customer services and to enhance merchandise presentation. The museum shop in the National Museum of African Art will reopen in the new Quadrangle facility in the fall of 1987. Overall, the museum shops will continue to incorporate technological advances in retail management, aim for increasing professionalism in operations, and stress products that are educational and related to the Institution's collections.

Mail Order

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UNRESTRICTED & SPECIAL PURPOSE FUNDS	86	17180	86	18210	86	19925	95	21880	106	23165	118	24500	128	25890
RESTRICTED FUNDS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOVERNMENT GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL - ALL FUNDS	86	17180	86	18210	86	19925	95	21880	106	23165	118	24500	128	25890

The Mail Order Division will continue to publish three main catalogues each year featuring Smithsonian related educational products: Fall, Spring, and Summer. These will be supplemented by specialized catalogues designed to appeal to particular audiences (for example, those with an interest in space exploration).

Concessions

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UNRESTRICTED & SPECIAL PURPOSE FUNDS	1	998	1	330	1	2202	1	2212	1	2223	1	2167	1	2064
RESTRICTED FUNDS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOVERNMENT GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL - ALL FUNDS	1	998	1	330	1	2202	1	2212	1	2223	1	2167	1	2064

Construction of a restaurant addition to the National Air and Space Museum to meet public needs is planned for completion by August 1988; renovation of the restaurant facilities in the American History and Natural History buildings is also planned. Other eating facilities will be upgraded. New food services contracts have been negotiated and are being implemented. They provide for an increased return to the Institution as well as an emphasis on food quality and service.

BUSINESS MANAGEMENT - SUMMARY

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UNRESTRICTED & SPECIAL PURPOSE FUNDS	320	38153	322	41087	323	45947	345	49742	361	53028	378	56527	393	60119
RESTRICTED FUNDS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GOVERNMENT GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL - ALL FUNDS	320	38153	322	41087	323	45947	345	49742	361	53028	378	56527	393	60119

Central Management Offices

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	33	1710	35	1862	38	2068	39	2092	39	2092	39	2092	39	2092
UNRESTRICTED & SPECIAL PURPOSE FUNDS	22	2555	23	2639	23	2394	23	2340	24	2450	24	2520	24	2593
RESTRICTED FUNDS	0	121	0	107	0	107	0	107	0	107	0	107	0	107
GOVERNMENT GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL - ALL FUNDS	55	4386	58	4608	61	4569	62	4539	63	4649	63	4719	63	4792

The planning period will see continued examination of Institutional objectives, priorities and resource allocations. Close oversight will be given to the strengthening of research and scholarship. Administrative and support functions will be monitored to assure their responsiveness to organizational needs. Continued strong attention will be given to the legal oversight of and counseling on Smithsonian programs. Financial management and internal control systems will be strengthened. Audit and investigative programs will be applied thoroughly to guard against or correct problems. Legislative initiatives will be developed and presented and effective communications maintained with the Office of Management and Budget, Congress and other organizations. Overall resources expected in FY 1993 for central administration amount to about \$5 million and 63 staff.

Specialized Administrative and Technical Offices

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	236	12186	261	14023	281	15593	292	15622	299	15743	305	15805	311	15999
UNRESTRICTED & SPECIAL PURPOSE FUNDS	198	10582	200	12912	196	12808	197	12441	197	13260	198	13802	198	13998
RESTRICTED FUNDS	0	3	0	78	0	0	0	0	0	0	0	0	0	0
GOVERNMENT GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL - ALL FUNDS	434	22771	461	27013	477	28401	489	28063	496	29003	503	29607	509	29997

The Institution's planning function will be further developed as an integral part of the budget process and additional steps will be taken to strengthen participation of all levels of management in decision-making activity with more intensive reviews of ongoing and planned activities. Automatic data processing will be applied more comprehensively in administrative, research and collections management work. Of particular note will be the development and operation of a new personnel/payroll system using the Department of Agriculture's National Finance Center, the phased implementation of new accounting systems and the development of systems to provide information for management and research purposes on the national collections. Planning for integrated voice, data and image communications will continue. Necessary implementation and monitoring of the new Federal Employees Retirement System will continue. The personnel management function and

operations will be studied with the goals of facilitating the hiring of professional and other staff, measuring and rewarding scholarly performance and improving internal controls. Continued attention will be given to employee benefits to make the Institution an attractive employer. Overall, resources expected in FY 1993 for Specialized Administrative and Technical Offices amount to about \$30 million and 509 staff.

ADMINISTRATION - SUMMARY

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	269	13896	296	15885	319	17661	331	17714	338	17835	344	17897	350	18091
UNRESTRICTED & SPECIAL PURPOSE FUNDS	220	13137	223	15551	219	15202	220	14781	221	15710	222	16322	222	16591
RESTRICTED FUNDS	0	124	0	185	0	107	0	107	0	107	0	107	0	107
GOVERNMENT GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL - ALL FUNDS	489	27157	519	31621	538	32970	551	32602	559	33652	566	34326	572	34789

Facilities Services

	FY 1987		FY 1988		FY 1989		FY 1990		FY 1991		FY 1992		FY 1993	
	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$	FT	\$
	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)	EMPL	(000)
FEDERAL SALARY & EXPENSES	1245	56308	1263	58784	1306	61220	1364	64299	1390	66473	1413	68891	1436	71395
UNRESTRICTED & SPECIAL PURPOSE FUNDS	24	2504	24	1739	23	1656	23	1662	24	1767	24	1823	24	1875
RESTRICTED FUNDS	0	4	0	0	0	0	0	0	0	0	0	0	0	0
GOVERNMENT GRANTS & CONTRACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL - ALL FUNDS	1269	58816	1287	60523	1329	62876	1387	65961	1414	68240	1437	70714	1460	73270

Capital improvement, safety, security, health and architectural history programs and projects will be strengthened and monitored for effectiveness. During the planning period construction will be finished on the Air and Space Museum terrace restaurant and on the Tupper research and conference building at the Tropical Research Institute. The General Post Office Building will be taken over and operated in a caretaker status until its restoration can be undertaken and completed. Care of existing facilities will continue as one of the highest priorities with major resources sought to augment existing preventive maintenance and repair programs and to initiate a major capital renewal program. Greater attention will be given to space management and the forecasting of requirements. The program of building condition surveys and architectural histories will be accelerated. With the completion of the installation of the proprietary security system, the emphasis in the security program will be on the conversion of the old alarm system and the companion effort to modernize alarms and other security installations. Guard shortages will be alleviated as the financial situation permits. Major emphasis will be placed on improving the Institution's capabilities in environmental management, including the identification and handling

of hazardous materials and other safety matters including fire protection with the objective of bringing facilities and programs into full compliance with legal and regulatory requirements thereby establishing a safe environment for staff, visitors, collections and buildings. Automation will be extended throughout the facilities offices. Budget increases are required primarily for the safety and environmental management program, space planning and automation, plant operations and security bringing total expected resources in FY 1993 to about \$73 million and 1,460 staff.

APPENDIX II

COLLECTIONS RELATED RESEARCH

Many areas of research at the Smithsonian have been traditionally driven by the collections. Currently, various bureaus are engaged to differing degrees in research on their diverse collections. This appendix contains brief descriptions of some of these research activities. In future years, use of the collections for research at the Smithsonian will increase. An inventory of collections completed in FY 1983 brought into focus for Smithsonian and other researchers the variety, range, and depth of the collections, and the information potential they represent.

The establishment of research and conservation laboratories and curatorial areas at the Museum Support Center, the provision of additional internships and fellowships, the upgrading and replacement of research equipment, and the growing importance of the Institution's international functions combine to provide a strengthened base from which collections oriented research can receive greater emphasis in future years.

Air and Space Museum

The Air and Space Museum's rare Boeing 247 airliner is the subject of intensive research efforts, which will result in a scholarly book. This aircraft revolutionized commercial air travel in the early 1930s and pioneered modern airliner design. Using primary material, the author will thoroughly examine the story of this aircraft and its impact on the development of air transportation.

The Museum is continuing its research on the famous photographer Edward Steichen and aerial reconnaissance in World War I. Drawing upon material once held by Steichen, researchers have defined Steichen's technical role in the development of aerial photography while he was Chief of the Photographic Section, U.S. Air Service, American Expeditionary Force. A series of forthcoming articles will address Steichen's contributions and the birth of aerial reconnaissance in the U.S. Air Service.

In 1989, NASM will publish The Wright Flyers: The Technology of the Wright Brothers and the Process of Invention, which will focus on the inventive process involved in the creation of the world's first airplane and subsequent Wright aircraft before World War I. The author will take advantage of the artifact-based research performed during the 1985 restoration of the 1903 aircraft as a supplement to more traditional archival resources toward the goal of a fuller understanding of the Wrights' achievement. The restoration of the Wright Flyer was done before the public in one of NASM's galleries. The restoration project included a companion exhibit in the design and construction of the Flyer. Part of this exhibit was an operating reproduction of the Wrights' wind tunnel with which the curatorial staff ran through the pivotal experiments performed in 1901-02 to gain a greater understanding of how the Wrights

arrived at their results. Another element of the project was a thorough artifact analysis done on the Flyer by NASM staff in cooperation with the Smithsonian Conservation Analytical Laboratory.

The Space Science and Exploration Department is receiving an increasing number of requests for study and even operational use of its artifacts. In June 1987 a NASA-contractor team spent two weeks at the Washington-Dulles International Airport testing a runway net arresting system and rehearsing emergency rescue procedures using the Museum's Space Shuttle Enterprise. NASA Jet Propulsion Laboratory engineers disassembled the Voyager interplanetary spacecraft, retrieved a thermal-structural bus to be used in a planned planetary spacecraft, and replaced it with a replica. Designers from British Aerospace spent two weeks studying the space suit collection, to aid their efforts in designing their own space suits.

At the Museum's Center for Earth and Planetary Studies, the collection of more than four hundred thousand planetary images is the core material for research on planetary surfaces. Using photographs from manned and unmanned spacecraft, geologists at the Center are studying the origin of surface features and mapping the distribution of certain types of land forms on the planets and their moons. The collection of photographs from the Space Shuttle is used also for analysis of Earth's surface features, particularly in arid lands.

Archives of American Art

The Archives of American Art is the chief national repository for documentation of art in the United States. Virtually all research at the Archives of American Art is based upon its vast collections of visual and written documentation. Well over 3,000 external researchers use the collections annually for theses, dissertations, books, and articles.

Staff research concentrates in two areas: research to locate documents for acquisition and research on the collections that results in symposia, exhibitions, and publications. Among recent projects was the Bauhaus in America conducted by the New England Regional Director, which resulted in an exhibition at the Boston Public Library accompanied by a published checklist. Currently, staff is engaged in research on the "Armory Show" of 1913, the first large public exhibition of modern art in the United States. This project will result in an exhibition of the documents from our collections to be shown in New York. Two research projects on early twentieth century art are underway to discover, study, and publish documents. One project will look at art in Southern California and the other at art in Chicago, two areas that have not received sufficient scholarly attention. In both locations, the Archives has active research collecting projects resulting in symposia and projected publications of papers based on documentation acquired by staff. AAA scholars are also studying such topics as the history of social and political activism of artists and the American Artists Congress in the 1930s and the impact of the conservative and classically inspired designs in painting, architecture from fellows at the American Academy in Rome.

Special, continuing research and conservation projects are focused on

the Archives' collections of photographs and works of art on paper. These include cataloging, research and conservation with the aim of publishing guides to these special collections.

Center for Asian Art

Freer Gallery of Art

The results of curatorial research on the collections in the Freer Gallery of Art are most visible in exhibitions. However, additional research is made available to the public through collection research records, free gallery leaflets, public lectures and in published papers, articles and catalogues. Specific areas of current research in Japanese art include continuous work in the areas of Japanese painting from the Heian to Edo periods, and calligraphy, lacquer and prints. In addition research for a series of catalogues on Asian ceramics is being done in the areas of selected Japanese ceramics, the relationship between Korean and Japanese ceramics, ceramics from Kyushu and western Honshu in Japan, Chinese trade ceramics and Southeast Asian ceramics.

In the field of Chinese art, research continues on Chinese calligraphy and paintings of the Sung, Yuan, Ming and Ch'ing dynasties. Research on Chinese lacquers will result in a published article.

In 1973 the Freer published Chinese Figure Painting which has been the only scholarly study in this field but which has been out of print for eight years. Revision of this original text for publication has necessitated a comprehensive review of all literature on that subject during the past fourteen years. The catalogue will be republished during FY 1988.

In the field of Indian art, research during the last year focused on early 17th-century Mughal painting, in particular Rajput painting of Rajasthan. Other current research in the area of Indian art includes the study of Mughal gardens and garden architecture of the 16th to 17th centuries.

In the area of Near Eastern art, research is being conducted for a catalogue and exhibition of the Vever collection of Persian painting and related arts of the book. Ongoing research concerning 15th-century central Asian and Iranian art and architecture is being conducted in preparation for a major exhibition in 1989 in the Sackler Gallery.

A study and survey of Sasanian and first millennium ancient Near Eastern objects given by Arthur M. Sackler was begun. Also, research into second millennium silver objects continued.

Although the Freer is best known for its holdings in the arts of Asia and the Near East, it also houses a collection of works by American artists of the late 19th and early 20th centuries, including a major group of works by the expatriate artist James McNeill Whistler. Current American exhibits include paintings by Whistler, Dwight William Tryon, Thomas Wilmer Dewing and John Singer Sargent.

The Technical Laboratory of the Freer Gallery is renowned for its research activities, in addition to ongoing conservation and restoration of objects in the collection. Research in the area of conservation concentrated on the extension of identification methods in the field of organic colorants in paintings and the lead isotope ratio analysis of Chinese bronzes in the Sackler collections. Specific Freer research included the study of unusual copper green pigments on Ukiyo-e paintings, "lead white" on Japanese paintings, identification of pigment samples taken from excavated objects (dated to the 5th-8th centuries A.D.) in Korean museums, microscopic identification of paper fibers from very small samples, and investigation of the metallurgy and properties of high-tin bronzes, including reconstructing the alloy and production methods used in making high-tin bronze mirrors from Arammula, India.

Arthur M. Sackler Gallery

Research is the fundamental focus of the Arthur M. Sackler Gallery, providing the basis for exhibitions, publications and collections acquisitions. The research program involves both visiting scholars as well as the curatorial staff.

An extensive exhibition program in the new building displays the initial Sackler gift together with other major objects on loan from the private collection of Dr. Sackler. The inaugural exhibitions include "In Praise of Ancestors: Ritual Objects from China," "Monsters, Myths and Minerals," "Pavilions and Immortal Mountains: Chinese Decorative Art and Painting," "Nomads and Nobility: Art from the Ancient Near East," "Persian and Indian Paintings: Selections from a Recent Acquisition," "Temple Sculptures of South and Southeast Asia," and "Chinese Buddhist and Daoist Imagers."

Future exhibitions will include those originated by the Gallery as well as traveling exhibitions organized elsewhere. Exhibitions will be drawn from international public and private collections as well as from the Sackler collection. It is expected that many Gallery-organized exhibitions will travel to other museums and institutions. Future exhibitions will include "The Chinese Scholar's Studio," "The House of Timur: Princely Arts in 15th Century Iran," "Masterpieces of the Chinese School Painting," "Mughal Gardens," and "Photographs by Raghubir Singh." Under consideration for future exhibitions are Chinese mirrors, Ordos bronzes, Chinese lacquer, Indian and Southeast Asian sculpture, Chinese garment hooks, Sasanian metalwork, Chinese furniture, Near Eastern ceramics, Far Eastern ceramics, and Chinese sculpture. Research catalogues will accompany these exhibitions.

Additionally, the Asian art history journal Artibus Asiae, now totally funded by the Sackler Foundation, is produced by the Gallery (although its contents are independent of the Sackler Gallery programs and collections). A journal of scholarly research devoted to Sackler Gallery exhibitions and collections also is published by the museum. These two journals make the Gallery a major center for research publications on Asian art history. Exhibitions, exhibition catalogues and lectures at the Gallery are generated from specific research projects. The Gallery's publications program also includes a quarterly bulletin, Asian Art, intended for the

general public. The bulletin has color plates and informative text relating to the permanent collection, recent acquisitions and special exhibitions. Free leaflets are provided in the exhibition galleries.

Following the long practice of the Freer Gallery, the Sackler conservation effort includes object research to understand the origin of objects and therefor better develop the proper treatment of them. Expansion of the conservation facilities in a renovated Freer building will accommodate the requirements of the Sackler programs. In the past year the staff of the Technical Laboratory has been primarily concerned with the conservation of the objects for the inaugural exhibitions in the Sackler Gallery.

Cooper-Hewitt Museum

At the Cooper-Hewitt where there are more than one hundred sixty-seven thousand items in its permanent collections. Research on the permanent collections is often generated by the Museum's outstanding and varied schedule of special exhibitions. It is usually an exhibition which provides the Museum an opportunity to exhibit an object or group of objects and to publish information developed by curatorial research. Special exhibitions now planned will reflect the results of research on fans, locks and keys, and printed fabrics. Longer range planning involves collection materials relevant to designs and objects generated by the universal human experience of death, marine life forms in the history of art and design, and domestic cutlery and tablewares.

Additionally, research continues on the structures, patterns, uses and manufacture of lace, on draw-loom woven fabrics from the fourth to the twentieth century, and repeat as a design determinant and technical aspect of patterned textile manufacture. During FY 1986, the Curator of Textiles offered a special course in textile structures analysis for an invited group of professional colleagues from across the country. Cooper-Hewitt collection materials provided the working materials for the course, which we expect will be re-offered bi-annually as a service to the field. In the Drawings and Prints Department, new collections-based research included investigations of our Antonio Gentile (1531-1609) drawing of a silver crucifix for the high altar of St. Peter's Basilica in Rome, a study of one hundred and ten drawings by Carlo Marchionni (1702-1786), and analysis of a group of one hundred and twenty-five European and American interior design drawings of the sixteenth to twentieth century.

Collection-based research also results from the interests and activities of both faculty and students in the Museum's graduate program in the history of decorative arts. Also, conservators are active researchers at the Cooper-Hewitt. In FY 1986, for instance, work continued on the analysis of material components and functions of metallic fibers in textiles between the fifteenth and nineteenth centuries and the history and conservation problems of transparent papers before 1850.

Conservation Analytical Laboratory

Research at the Conservation Analytical Laboratory (CAL) is to a large extent collection-based. The directions in conservation-related research,

both with regard to studies in conservation science and the development of treatment technology, are generally derived from actual problems encountered by conservators in the care of objects from the collections of the various museums in the Smithsonian. As a result CAL studies are often performed with objects as the actual study material. For example, an analytical and technological study of archeological Hopi ceramics, aimed at the evaluation of cultural boundary maintenance between the different Hopi peoples during the period of great migrations, utilizes among others the collection of the Museum of Natural History. CAL's program of lead isotope analysis, in collaboration with the National Bureau of Standards, has been focused on provenience studies of Chinese bronzes from the Sackler Collection. Works by the American artists Thomas W. Dewing and Albert P. Ryder, from the collections of the Museum of American Art, are the subjects of studies involving several techniques including neutron activation autoradiography, to obtain information on the personal techniques and the compositional processes by which these works were created.

Collections from museums outside the Smithsonian are often involved in CAL research projects, such as studies on the provenience and technology of ceramics from the Far and Middle East, the technology of archaeological plasters from the Near East, bronze mirrors from India, and 17th and 18th century music wire. Many projects in materials analysis are carried out by CAL's post doctoral fellows.

Hirshhorn Museum and Sculpture Garden

Since 1974, the Hirshhorn Museum and Sculpture Garden, through it's Department of Painting and Sculpture, has developed a program of intensive research on its collection of modern and contemporary art. The primary documentation on the collection, together with interpretive research, is maintained in the Collection Archive, which serves as the central information file on the permanent collection. Among the major research projects undertaken within the past ten years is an international biographical survey of living artists represented in the permanent collection. The curators in the Department of Painting and Sculpture have also devoted intensive research to the history of casting of modern sculpture, with particular emphasis on the problems of connoisseurship, foundry marks, and editions. With the bequest of Joseph H. Hirshhorn's personal collection in 1981, the curatorial staff has undertaken a massive effort to research and catalog the more than five thousand works bequeathed to the museum.

Periodically, collections-based research has focused on topics that result in exhibitions. In 1986 an investigation of relief sculpture resulted in an exhibition selected from the permanent collection. Also, one project which began as a study of the museum's holding by the Swiss sculptor Alberto Giacometti will culminate in a major retrospective loan exhibition in 1988.

Museum of African Art

At the Museum of African Art, curatorial research is the foundation upon which all of the museum's public and scholarly programs rest. New,

untried, and often seminal projects can be conceived and developed because the entire research staff is sharply focused on the visual traditions of one important region, Africa south of the Sahara. This has led the Museum to use closed working symposia, often multi-disciplinary in composition, to explore and develop new exhibition topics and content for attendant publications. Now under way are working symposia/conferences on "Archetypes in African Art," "The Art of the Luba," and "Nomadic Art and Architecture." The results of this approach will culminate in major exhibitions and publications organized and published by the Museum. Other projected exhibitions in post-1987 will be devoted to African pottery, the commemorative screens of the Ijo of Nigeria, and textiles of the Shoowa people of Zaire.

The Museum's Photographic Archives, which includes over seventy thousand black and white photographs and nearly one hundred and fifty thousand color slides, is the center for ongoing research into the context of African visual traditions. Many of the images are of historic importance; others capture the arts in their traditional settings. These images, important to researchers dealing with meaning and context studies, are also used in photographic exhibitions and catalogue publications.

In the area of ethnographic conservation, the Museum of African Art now has a facility which will permit it to contribute to the development of important research work both nationally and internationally. The Museum plans to expand its efforts in the field of ethnographic arts.

Museum of American Art

Collections-related projects at the Museum of American Art include a study of the sources and influences for the work of sculptor Paul Manship, and critical responses to it. The project will result in a book-length monograph and exhibition. A project on Albert Pinkham Ryder involves a technical study (in collaboration with the Conservation Analytical Laboratory) of the museum's holdings of this late 19th-century American painter. This study will bring together the diverse types of information obtainable through X-radiography, autoradiography, and other scientific means. The study will result in a book-length evaluation of Ryder's composition and technical accomplishments, and will help illuminate questions of authenticity.

Examples of more traditional art historical research include preparations for a Joseph Cornell catalogue raisonne; a traveling exhibition and related didactic materials on Post Office mural paintings from 1935-43; and a publication on the history of American miniature painting. Two major collections of American art have recently entered the Museum's holdings. The Herbert Waide Hemphill collection of American folk art encompasses a broad range of creations from the 18th century through the present. A research program is currently underway to examine this premier collection in the context of previous scholarship and current attitudes on "folk" versus "fine" arts. An exhibition and major catalogue are planned for 1990. The second new acquisition, the Patricia and Phillip Frost collection, also is the subject of a current research project, which will document the careers of charter members of the American Abstract Artists group of the 1930s and 1940s. A catalogue of

the Frost collection is scheduled to appear in 1989, in conjunction with an exhibition.

In a major new initiative, the Museum has begun a journal called Smithsonian Studies in American Art. Oxford University Press has undertaken to publish and distribute the journal; the first issue appeared in spring 1987. The journal is served by an editorial advisory board of external scholars. Articles on American art and culture are invited from scholars across the nation and beyond; contributions by Smithsonian scholars and articles about the national collections are encouraged. The early issues included articles by staff curators on the Thomas Hart Benton mural Achelous and Hercules and the Thomas Hotchkiss painting Torre di Schiavi, both in the NMAA collections.

Museum of American History

At the Museum of American History, catalogue projects are underway on the Museum's African-American holdings and labor history collections. Labor history collections are also the focus of an analysis of labor iconography.

Department-wide collections are being researched for a forthcoming cultural history exhibit, "Everyday Life in America, 1876-1915"; the doll collections are being used in a study of the rise of the american doll industry and the components of girlhood, 1890-1930; and furnishings collections are part of a study on the role of gift exchange in America, 1750-1850. Furniture and trade catalogue collections are being used in a study of the social and cultural meaning of appearance in 19th century furniture. Photographic collections are being studied for a history of the photographic darkroom.

Continuing long-term projects utilize the Museum's collections of political iconography to pursue a comparative study of the meaning of the suffragist movement and of the women's movement of the 1970s and the costume collections continue to be used to define and compare gender role ideals in American history.

The artifact collections of the Department of the History of Science and Technology continue to support a wide variety of research projects. A sampling of recent collections-related research includes the use of technology collections to document patterns of economic, social, and technical change. A survey of 19th century cotton gins in our collections and elsewhere will constitute the basis for a reinterpretation of Southern mechanical skills and inventiveness. From the evidence in sextants and survey instruments, research staff are documenting the American role in early technology. Staff are engaged in studying the contribution of American clockmakers (particularly the Bond family) to the field of astronomy. Other collections-related research projects include a study of the everyday life of the American soldier, as well as a study of the role of nurses in hospitals. In conjunction with a major exhibit on the Information Age of technology, research is being done to examine the ways in which computers are changing social structures.

The Division of Transportation continues its basic survey of the

U.S.S. Indiana artifacts, including the earliest propeller-driven ship's machinery ever recovered. Ongoing studies of the John Bull Locomotive are placing the artifact in the context of technology transfer and adaptation, and studies of our railroad photographic archives will examine the popular image of the railroad in American culture. Staff are also examining the role of freight cars in bringing fresh food and manufactured goods to communities, thereby transforming the quality and nature of American life.

Museum of Natural History

The more than eighty million specimens of animals, plants, fossils, rocks and minerals, and artifacts of human culture housed by the Museum of Natural History/Museum of Man provide a focal point for the basic research of a resident staff of more than two hundred scientists from the Smithsonian and other affiliated government agencies. Numerous scientists all over the world also use these collections, either as visitors or borrowers. Almost four hundred thousand specimens and objects were loaned in FY 1986.

Ongoing collection-based research studies at NMNH include a Smithsonian-National Geographic Society search for the geological remains of the ancient Strait of Gibraltar, a passage believed to have been destroyed more than five million years ago by the collision of the European and African continental plates. The project is providing historical evidence for the formation of the mountain systems of southern Spain and northwest Africa and has yielded a vast collection of microfossils valuable for scientific studies and mineral, petroleum, and water exploration.

Concern over the high prevalence of cancer in fish living in chemically contaminated bodies of water, and the potential human health hazard this poses, has recently focused attention on the Museum's Registry of Tumors in Lower Animals. The Registry, a depository for a collection of more than five thousand diseased specimens of fish, shellfish, and other animals from the U.S. and forty other countries, is the only clearing house in the world for information on the phenomena of cancer in fish and other vertebrate and invertebrate cold-blooded animals.

Information on pathological conditions of special significance in the Museum's incomparable collection of carefully catalogued skulls and bones was recently computerized under a National Institutes of Health-funded study focusing on the origin of disease. It is expected to provide some answers to questions concerning human adaption and how different disease conditions reflect both biological and cultural components of the past. The skeletal collections, containing more than thirty-five thousand specimens, represents nearly every geographic area of the world, some dating back five thousand years to the early development of cities. It includes the Terry collection of modern skeletons that has been invaluable in the creation of a system that has successfully assisted in identifying children missing for a number of years.

Unknown sea life discovered by divers in previously unexplored underwater marine caves in the Bahamas, Bermuda and the Turks and Caicos

Islands is being intensively studied by Museum scientists. The diversity of these valuable collections includes, for the crustaceans alone, a new class, a new order, two new families, three new genera, and twenty new species. For scientists these animals and their environment provide a window on the past. Shut off for millions of years from the pressures of natural selection, in a stable environment similar to the deepest parts of the world's oceans, they reproduce more slowly than other shallow marine animals, live much longer lives, and have lower metabolic rates. Research by Museum scientists and colleagues at several universities has made classification of these animals possible and led to new hypotheses on the distribution of animals via the action of plate tectonics and the use of cryptic habitats on the sea floor.

A vast compilation of taxonomic and biological data on wasps, bees, and related insects in America north of Mexico has been entered into an electronic database by Museum entomologists, accomplishing a revolutionary advance in the field of systematic cataloging. The data bank for some eighteen hundred species of Hymenoptera contains a wealth of biological information that makes the database valuable to a wide variety of scientists (for example, parasite-host records for those interested in biological control and bee-plant associations of value to pollination ecologists and botanists). Data on Mexican wasps and bees will be added to the data bank in the future to enhance its usefulness.

The Museum's unparalleled collection of arctic ethnological, archeological, and physical anthropological specimens make it a center for arctic anthropological research. Current projects include a major study on the prehistory of the Indian and Eskimo cultures of Labrador; research on the first European settlement in the Canadian Arctic in Baffin Island by Martin Frobisher in 1574-76; studies bearing on the prehistory and origins of the Alaskan peoples of St. Lawrence and Kodiak Islands; and research on the origins of prehistoric Eskimo art and its ethnographic and modern expressions.

The Museum's meteorite research collection is the largest and most important in the world. In 1987 the Museum acquired a new, state-of-the-art analytical scanning electron microscope. This instrument is initially being used to study the fine structure of the rarest and most primitive classes and meteorites (the carbonaceous chondrites) in the hope of elucidating aspects of the beginnings of our planetary system.

Museum scientists are in the process of describing as many as 35-40 extinct bird species from a collection of tens of thousands of fossil bird bones amassed in the Hawaiian Islands over the last 11 years. The collection has provided startling evidence that as many as 50 per cent of the archipelago's original bird species were extinguished by the Polynesians who colonized the islands 2,000 years ago. Heretofore, most naturalists had assumed that Hawaiian ecosystems were relatively untouched up to the arrival of James Cook in 1778. This continuing project is changing the assumptions of biogeographic studies, making it clear for the first time that modern island biotas are merely remnants of what would have been present under pre-human conditions.

The rich crescent of tropical/subtropical vegetation that extends from

the flanks of the Andes northward, then eastward into the Guianas, contains millions of plant and animal species. Very few of these "bioresources" have ever been screened for their economic potential. In 1987 the Museum began a major effort to inventory and study the plants and animals of this region before they are destroyed by accelerating development in Amazonia. At least one new inventory a year will be initiated over the next decade in protected reserves and parks in Bolivia, Peru, Ecuador, Colombia, Venezuela and the Andes. The project is expected to result in a greater understanding of biological diversity and yield thousands of new plant species, hundreds of new animal species and tens of thousands of new insect species potentially valuable as food, biological control agents and germplasm resources.

The Museum also has underway two other major long-term collection-based projects aimed at gaining a better knowledge of (and ultimately conserving) the biological diversity of Latin America:

—The Museum is one of six sponsoring organizations that have undertaken a multinational effort to describe the little known plant life of Guyana, Suriname, and French Guiana. This project, involving more than a dozen Museum botanists, is being significantly aided by existing Museum collections, which are serving as references to past exploration.

—Ongoing Museum fieldwork is yielding important new information on the composition, function, evolution and distribution of the plants and animals of Brazil's Amazonian Basin and Atlantic Forests. This research is being coordinated with archeological studies of the roots of human culture in Amazonia.

The Museum has begun a major research program to determine whether the present disturbances to terrestrial environments are extraordinary compared with events that took place prior to the origin of humans. Documenting how stable land ecosystems have been over geological time, will help scientists assess and predict the long-term effects of the global-scale disturbances to the environment (such as tropical deforestation and greenhouse effects) now taking place. The Museum enjoys a unique advantage in pursuing this research because of its vast collections of fossil terrestrial animals and plants, the diverse talents of scientists working here, and its importance as a center of research on biological diversity.

Portrait Gallery

Among the current research programs at the Portrait Gallery are a study of the history of radio and television broadcasting and portraits of the major figures in this area; research into portraits of significant American lawyers from Colonial times to the present; a study of portraits and biographies of the members of the first United States Congress; and a study of American portraits exhibited at the 1893 World's Columbian Exposition. The Gallery also is identifying and studying the relationship of the portraits of Andrew Jackson to his evolving national image, and the history of Time, Inc.'s patronage of portrait artists. All of these are directed toward major exhibitions scheduled at the NPG within the next four years; each exhibition will be accompanied by a major publication.

The research projects listed above are involved with objects from the NPG collections and in some cases will require loans from other public and private collections. For the Columbus Quincentenary, NPG is collaborating with the Prado in Madrid, Spain and the Kimbell Art Museum in Fort Worth, Texas, to present a major exhibition of portraits from the Golden Age of Spain (the reign of Phillip II). Research primarily focused on publication is in progress on: the life of the photographer Mathew Brady; the American sitters of the Swedish painter Anders Zorn; the career of painter James Earl; the life and work of Charles Fevret de Saint-Memin; and the papers of Charles Willson Peale and his family. Volume 1 of the Peale Family Papers has already been published by the Yale University Press; volume 2, Selected Papers of Charles Willson Peale and His Family: The Artist as Museum Keeper, 1791-1810, and volume 3, The Artist in Retirement, 1810-1820, will be out by 1989. Completion of the series is envisioned by 1993. The book on St. Memin is being edited for publication by the SI Press, with a grant from the Barra Foundation.

Zoological Park

The Zoo's departments of ornithology, mammalogy, herpetology and invertebrates are responsible for the maintenance of the exhibit collections. A principal aim of these departments is to nurture research that deals with the husbandry, management, and exhibition of the exotic animals under their care. Research on the collection also provides input into NZP's extensive programs in public education.

Husbandry and management research is critical to the maintenance of species in captivity. Examples, selected from among numerous investigations, include the maintenance of tenrecoid insectivores in captivity, the management and breeding of Prevost's squirrels, reproductive competence in captive gorillas and the husbandry and breeding of emerald tree boas.

Research that involves exhibit quality also is being done so that exhibits can be improved. Exhibit enrichment for gibbons, small carnivores, and gorillas has been studied in an effort to increase activity and reduce stereotyped behavior. Other animals such as bears, large cats, and otters are the focus of a research project to improve animal activity and visibility. The very popular Smokey the bear will be included in a study aimed at increasing his visibility.

The visitor experience at the Zoo also is being studied with the goal of improving the educational interpretation of exhibits. Visitor behavior has been investigated in the reptile house and the invertebrate exhibit. These studies are providing the information to allow us to improve the response of our visitors to the exhibits. A larger study has recently been started that will observe and record visitor behavior in the entire Zoo. The results of this work should be very useful as the Zoo renovates old exhibits and considers new ones.

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